

# ZORAM HMANGAIHTU



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*By*  
**Veronica K.Zatluangl**

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# ZORAM HMANGAIHTU

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**Ka pasal duhtak,**

**Ralte Romawia**

**28th Dec. 1973 A min boral santa  
nghilhloh nan ka ti.**

**In memory of my ~~dearly~~ beloved  
and most cherished husband,**

**Ralte Romawia**

**"Untill The Days Break. And The Shadows  
Flee Away, In Precious And Grateful Memory"**

**"WE PLAN A WONDERFUL FUTURE DEAR,  
ONLY TO END IN A DREAM."**

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# T H U C H A H

Mizoramah hian lehkhabu chi hrang hrang keimahni tawng ngeia ziah a awm ve ta nual a. Kan hnam naupan ngaihtuah chuan kan khawhaw pawh a zau ve ta hle mai. Ram changkang ten an tih danin mahni In leh a chhehvel cheimawi te kan uar ve tan ta a. Kan ram lei hang a da tan a, tun hmaa thlai kan chin dan mawl tak ang kha chuan thlain ei an tling thei tawh lova, enkawl dan uluk leh tha zawk an mamawh a. Mihring kan pung zela Eizawna kawng hrang hrang kan dap a ngaih avangin Sumchang Thlai leh thei te pawh uar zawk leh mithiamte finna hmanga kan chin leh enkawl a ngai ta. Kan ramngaw thing leh mau nitina kan hman ral mek te phuhrukna thingtha leh tlo a tam thei ang ber kan chin a ngai ta.

Heng a chung a kan sawi tak te atana tangkai leh a chhiartu apiang ten a an hman nghal theih Lehkhabu tha tak Pi K. Zatluangi ziah ZORAM HMANGAIHTU hi Mizote hmasawna kawng kawh-hmuhtu tha tak niin ka hria. Pi K. Zatluangin hetiang lehkhabu tha, a'n buatsaih thei hi a fak-awmin a entawn tlak tak meuh a ni. A chhiar apiang ten an hlawkpui ka beisei.

**SAIKAPTHIANGA**

**Minister of State,**

**Agriculture, Sericulture and Sports.**



# **T H U C H A H**

**He lehkhabu 'ZORAM HMANGAIHTU'**  
buatsaihtu Pi K. Zatluangi hi ka mi hriatchian, mi  
taina tak leh tumruh tak a ni a. He lehkhabu  
buatsaih Rose chi hrang hrang phun dan leh a  
enkawl dante. Sumchang thlai chi hrang hrang,  
nitina kan mamawh leh a enkawl dante hi a  
bengvar thlak hle in ka hria. Kan hnam a lo  
chang kang zelin pangpar chi hrang hrangte  
mahni compound-ah chin/khawite kan lo ching  
ta hle a, tin, mahni in bulah chuktuahhuan neihte  
kan lo ching ta zel bawk a. He lehkhabu hi kan  
nitin pangpar enkawl danahte leh thlai chi  
hrang hrang kan enkawl naah nasa taka min puitu  
a nih ngei ka beiseiin a chhiartute hmang  
tang kai turin ka ngen nghal bawk a ni.

**(F. PAHNUNA) 16/4/91**

**CHIEF SECRETARY  
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# THUHMA

Engtak ang maw ? Mahni insitna leh Zoram tan a thahnem ka ngaih ve na chu thuangkata kal tirin, Zofa a bik takin Kan Agriculture lama mithiamte chawhthawh nan leh Zofa te Ei leh BAR a kan intodelhna kawng a ni dah law maw tiin 'ZORAM HMANGAIHTU' hi ka buatsaih ve chawt mai a.

He lehkhabu ka buatsaih lai a, ka rilrua lian ber chu 'ZORAM TAN' tih hi a ni a Chutih rual chuan he lehkhabu atana ka hlan, Kan pa duhtak R. ROMAWIA, Zoram hmangaih em em thin tu kha, rilrua vei reng chung leh Kan ram hi hminghran lo phuah a, 'KHAWCHHAK ARSI' (Land of eastern star) tia lo kotu rilru khan nasa takin min (encourage) ti phur bawk a ni.

Lehkhabu buatsaih ve ngailo a thukhawchang rin aiin lun leh thluak a duh a, mahse chutichung chuan a thu kal hmang leh tawng bungrua hman danah famkimlohna tam tak a awm ngei ang tih ka ring a. Theihtawp in Mizo tawng hlang hlak hman ka tum na-a mahse kan tawnga la awm lo pangpar leh thlai hmingte saptawnga dah loh theih loh a awm nual avangin, chniartute hriatthiamna ka ngen a ni.

Tin, he lehkhabu ka buatsaih puitlin, theih nan a, an lehkhabu hlutak tak te min hawhtir a, an thiamnate nena min finchhuahtu te :-

Pu Liankima Lailung, DFO  
Pu Thanzuala Hrahsel, DSCO  
Pu Ngurliana Sailo, DSCO

Pu Thanghnuna DSCO te leh Pi Lalfeli, UDC Librarian, PCCF Office ami leh Nl. Chawngsangzuali leh Nl. Catherine Ramhluni ten min chhut-sak avangin leh Pu K. Lalbiaktluanga'n a lem min ziahsak avangin rilru takin lawmthu ka sawi a.

Tin, South East Asia Social Rural Leadership Institute (SEARSOLIN) College of Agriculture, Xavier University Philippines-a Jhum Control zir thei tura hma min laksaktu MISERIOR (German Catholic tlawmgai pawl) te hnenah leh Scholarship min petu Dr. Ernesto O Javeir, President, Xavier University leh Dr. Antonio J. Ledesma, Director, Searsolin te leh ka zir lai a nasa taka min tanpuitu te, Prof. Boy Mercado, Prof. Miguel Fabello te chungah, ka lawm em em a. Tin, Agricultural Science lam atanga Asian Culture Expert te nupa, khawvela LO nghet neilo tlang mite (Shifting cultivator tribes) te ram leh hnam chanchin zirtirtute an zizna atanga Mizoram lo hre ve phak tu, Dr. John Burton leh Dr. (Mrs) Linda Burton te nupa hnenah lawmthu awm bawk sela, an ni nupa hian ka zirnaah nasa taka min puih bakah, Kan Zoram Jhum Control prawkram hi tihlawh-ting tura min duhpui zia leh, Kan Ram leh hnam tana an duhsakna min hlan nasat zia te chu rilru taka hre reng leh lawmthu sawi chungah, tlinglo takin he lehkhahu hi ka buatsaih ve ta a ni.

Tin, sawi hmaih hauh loh tur chu Mizoram sawikarin Jhum Control zir thei tura Study Leave min pek avangin ka lawm em em bawk a ni.

**Veronica Khawlhing Zatiuangi**

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## BUNG I

### THLAI CHI HRANG HRANG TE

**THLAI ENKAWL DAN :** Thlai han tih hian, mihringin kan ei nghal theih mai, a bik taka chaw nena eipawlh chi, mihring nunna atana pawimawh, chakna leh taksa thatna min petute an ni hlawn a. Tuna kan han sawi turte hi chu, kan ramah hi chuan thlasik thlai ka tih ho, inbul huana awlsam taka thar chhuah theih ho te; Zikhlum, Parbawr, Alu, Carrot, Bulbawk, Bean, Chana, Hmarchapui, Purun, Fanghma-te an ni. Sap ram lamahte erawh chuan, nipui thlai an ti thung a, a chhan chu thlasik lain an ram vurin a khuh vek a, engmah a chin theih loh avangin, nipui lain an ching thin a. Amaherawh chu, an nipui lai leh kan thlasik lai a boruak vawh dan chu a inang reng a ni.

### THLAI PHUNNA LEI BUATSAIH DAN :

Thlai phunna hmun tur kan thlan reng rengin, thli natak tlehna hmun chu thlai engmahin a ngeih thei lo tih hriat tur a ni. Tin, ni eng leh boruak thawl tak, thengthaw a ni tur a ni. Tin, tui awanna a hla tur a ni lova, thlai phun hlawh-tinna hi tuiah a ngahat nasa hle a ni.

Tin, heng thlai kan sawi turte hian khuar laih emaw, chawhphut emaw ngai vek an ni.

Mizoramte hi chu kan vannei em em a, lei naran-  
ah thlai kan ching tawp á, ef an tling ve leh mai  
thin a. Mahse, a tih dan, a lei buatsaih dan leh  
phun dan dik taka kan phun chuan kan thar  
dan let tam takin a hlawk thei a ni.

Kan ram hi awih deuh vek a nih avangin a  
hmesain awihpanga lei buatsaih dan sawi hntasa  
ila, kan phunna hmun tur chu fai taka hai emaw  
thentai ni se la, thingbul a awm chuan kar vek  
tur a ni, Feet hnih emaw feet thum emaw kar  
danah tuihawk luan kawr siam thlur thlak vek ni  
sela, a inkar kha hai yum tur a ni. Leitha  
bawngok emw, vawkek emaw, hneh taka pawlh  
ni se la, ek dur leitha a awm loh chuan Japan  
hlo hnah te, Tlangsam hnah te, Thingkha hnah te,  
Zawngtah te chi hnah te, hmuh theih ang ang  
mai khawmin, lei laih phutah khan phah chhuak  
vekin, lei pan deuh taka vur ni se la, Tichuan he-  
tiang leitha buatsaih hi thlai phun hma ni sawm-  
panga velah ni sela. Tin, hetiang leitha a awm loh  
va, vai siamsa leitha hman chuan, phun hnuah a  
tui a siamin emaw hman mai tur a ni.

Vai leitha siamsa hi chu, chi tam tak a awm  
a. Mizovin lei chi kan tih (Urea) ang hi thlaiin  
a ageih em em tho va. A pawlh dan chu, tel  
tin ruak emaw, baltinah emaw dut no hnih vel  
telhin thlai bulah kan leih mai tur ni. Tin, thlai  
rah chi an nih chuan a par kuhmum tan tirhah  
leih leh mai fla. Tin, Zikhlum pawh a hlum dawn  
tanah leih leh tur a ni. Tin, tula siam loh pawhin  
a hman theih tho va, mihringin kan ei tur kan  
al anga, al tawk chauhin thlai bulah kan leih mai  
tur a ni a, a tha duh tawk a ni.



## ZIKHLUM

Zikhlum hi kumkhatah vawi li a chin theih a, chutiang bawkin, a hun hrang hrang, fur laia chin chi, thal, thlasik leh favang laia chin chi a awm a.

A hmasa berah chuan Early Ball Head an tih chu March thlaa kuitiahin June thlaah phunsawn tur a ni. Feet hnih kar dan zelah phun tur a ni.

Tin, a dawt lehah chuan, Baky Head an ti a, July leh August thlaa kuitiah a, September thla a phunsawn chi, feet hnih kar danah phun tur a ni.

A pathumna chu, Christmas Drum-Head an ti a. September thlaa kuitiah, December thlaa phun sawn leh tur chi a ni bawk.

A palina chu Saroys an ti a, January thla a kuitiahin March thla a phun sawn tur a ni.

Tichuan a hun a zirin kumtluanin Zikhlum a thar thei a. Heng a chung a mite khi Zikhlum tha chi vek an ni. (A lem l-na)

## FRENCH BEANS

French Beans hi Mizoramah chuan englai pawhin a chin theih a, a fur, a thal, thlasikah pawh a rah reng thei a. Amah hian leitha, a siam chawp theih avangin tuh hma a, leitha, a hmalam a kan sawi tak ang kha dah belh lo pawhin a tha thei tho a ni.

Bean chu a rah vawihnih lawhna kung kha  
a tar thi mai thin a, chuvangin a hnah kha mal-  
khawmin leithaah hman leh nghal mai tur a ni.  
A bi ngaiah khan a chi tuh leh mai tur a ni. Ti-  
chuan kumtluanin Bean hi a thar theih a ni.

## HMARCHAPUI

March thla-a kuitiahin, May leh June thlaah  
phun sawn tur a ni a. Feet hnih emaw Feet  
thum danah emaw phun tur a ni. Tin, hlumbelah  
pawh a khawi theih tho va, Feet khat bial aia te  
lova khawi tur a ni. A khat tawh a damdawia  
kah reng a ngai a, chuti lo chuan a hrikin a ei chhe  
duh hle a ni. A para a rah hmasa apiang lawh  
zung zung tur a ni a. Ti chuan a rah tha duh thin.  
A chi thate chu "Outdoor" leh "Canape Hybrid"  
te an ni.

## CARROTS

Carrot hian nikang a mamawh hle a, nihlim  
leh damah chuan a kung chauh a tha hluah a, a  
bul bawh a awm thei lo. Lei thar leh vung a ma  
mawh a. Kan Mizoram lei leh boruak hi a ngeih  
em em a. A fur a thalin a tha duh em em a ni.  
Leitha a hmasa kan sawi ang thlapa buatsaih  
phei chuan a tha duh em em a ni. Kum khatah  
vawihnih a thar thei a. January thlaah a chi kui  
ila, March thlaah feet khat dan zelah phun sawn  
ni sela, July thlaah chuan a lak a hun thin a ni.



Zikhiam A kung Sang A Sira  
Chayr, Hium Te Te Hí ArrEi Thin.







Panrusang Zampa kaka Sakoh ukat anga  
Pung pua

Tin, May thlaah kuitiah leh ni se la, July thlaah phun sawn leh in, November leh December thlaah a seng a hun leh thin.

Carrot hi chi hrang paliah an then a . January thla a kuitiah chi chu Amsterdam forcing leh Early Nantes an ti a. Tin, May thla a kuitiah chi kha chu, Planet leh Scarlet Perfection leh St. Valery an ti a. A tlai chi hi a bulbawk a lian tha duh em em a. Entirsiaknaah lawmman a dawng duh hle.

## PARBAWR

Parbawr hi kum khatah vawi thum a thar theih a. Tin, a chi tha kum hnih kal ta mai a, an hmuh chhuah atangin a chitha, fur leh thlal a chin chi, leh parbawr lian chi an han hriatchhuah atangin khawvelah hian Parbawr chingtu te an tam sawt em em a ni.

1. All the year round : January thlaah kuitiahin March thla a phunsawn ni sela, tichuan June thlaah a seng a lo hun ta thin a lo ni. Feet hnih inkar dan a phun tur a ni.

2. Early Snow Ball : April thlaah kuitiahin, June thla a phun sawn tur a ni. September thlaah a puitling leh hman a, hei pawh hi feet hnih inkar dan a phun tur a ni.

3. Snows Winter White : August thlaa kuitiahin, September thla a phun sawn chi a ni. December thla vel a Puitling thei a ni.

Heng a chi hrang hrang hi kan Zoramah  
hian kan hmu phak hrih lova. A pathumna ang  
chi chauh hi kan hmuh theih chu a ni hrih a.  
Mahse chah chhuah ngei turn a ni.

## LATTUCE

Mizoramah pawh kan ching uar sawt hle a,  
Antam hnah pan chi, a hela ei chi a ni a. Chak-  
na a tamin Sap ho phei khu chuan Lattice tel  
lovin chaw an ei mang lo a ni. Lattice hi kum  
khatah vawi thum a thar thei a, nipui, Favang  
leh thlasikah a thar thei a ni.

A phunna lei buatsaihsaah khan feet khat  
kar danna phun tur a ni a, chi hrang tam tak a  
awm a, mahse, Mizoramah hian a that duh vek  
avangin sawi hrang lo mai ila.

## FANGHMA

Fanghma hi feet thum dan zelah chin tur a  
ni a. Lei tha a mamawh nasa em em a, nisa a  
mamawh lutuk lo. In chhungah pawh a tih-rah  
theih tho va, fanghma hi a rah tur, a par hmian  
a par hmasa rah keng lo a awm thin a. Hetih  
lai hian a zik chang hnih sih chhum tur a ni.  
Tichuan a chang tam takah zik thar lo chhuakin,  
a par rah pu tel chu a rawn chawrpui a. Tam  
tak tak a rah ti e a ni. Tin, chumi hma chuan, a to  
tirh hnahpui panga vel a chhuah hnuaah a zik an  
sik chhum thin bawk.



Fanghma hi chi hrang tam tak a awm a, a lar zual, U. S.A., Isrel leh Europe-a an chin lar te chu, Pefivex, Bedfordshire Prize leh Burpee Hybrid te an ni.

Pepivex : Hei hi chi te deuh sei ria zaih mai, nel tak, helai a kan chin ang hi an ni.

Bedfordshire Prize : Lianpui pui, ban chen chen, Isreal ramah an ching uar hle.

Burpee Hybrid : Fanghma laidum, a pil var tawi deuh chi-te an ni. Tin, Fanghma hian leitha a mamawh avangin tuhto atanga karhni hnuah, ni sawm dan zelah cho phutin lei tha an pe thin. Tichuan a rah nasa thei em em a ni.

### PURUN VAR (GARLIC)

A phun hun chu March thla leh April a ni a, a chi kuitiah aiin a bul tak kha phun a ni zawk a. Phun dawnin a bul chanve kha tanchhumin a hnuaillam kha thuk lo te in lei chawhdurah phun tur a ni. Leitha tam tak pek chuan, a hnahah leitha a kal nasa a, a bul a te vek thin. Chuvangin leitha pek fimkhur a ngai hle. Lei tak tin thumawh bawnggek leitha tin khat vel chauh a mamawh a ni.

A chawh hun September thla vel a ni. Purun var hi damah a bul a bawk thei lo va, nisa tak a mamawh a, chu tiang bawkin tui a mamawh em em bawk a, englai pawhin a bul kha tihhuh reng tur a ni. Chuvangin kan ramah hian fur laiin a chin chi ber a. October thla a, chin pawhin, tui tam tawk leihna tur awmnaah chuan

ei a tling thei vek a ni. February leh March  
thlaah a chawh hun leh thin.

**A KUNG ENKAWL DAN :** Le chawhphut  
chu inches ruk vela thuka chawhphut ni sela,  
tichuan inches kua kar danah phun tur a ni. Tin,  
Purun varah natna hrik vengtu a awm nghal  
avangin rannungin emaw, thlai dang hrik bawh-  
buaitsu ang hian a bawm ve ngam loh avangin  
a thar hlawk thei em em a. Kan ramah khawi  
laiah pawh, nikangah chuan a tha duhin a hlawk  
thei em em a ni. Chuvangin ching uar ta ila,  
pawisa hmuhna hnar tha tak a ni ngei ang.

Tichuan a bul chawh hun hma thla khatah,  
a kung kha inches hnih vel chauh zuah a, tan-  
chum vek tur a ni. Tichuan a bul kha a lo lian  
ang a, a hnaha chakna kha a bulah a lo inbaw-  
khawm thei ang. Tichuan a kung tanchhum hnu  
kai kha velah a bula zung tereuh te, zung hmul  
(hair root) an tih ang kha tihchhiat leh tur a ni  
a. A bul atanga zung thum bawk vela hlaa vut  
duk (vut sa tak) phul kualin, a zung hmul kha  
tih chhum ni sela, tichuan a zunga chakna kai  
kha a bul bawkah a kai vek ang a, a bul a lian  
leh zual duh a ni. Chutia a kung tanchhum chu  
chawh thlengin tanchhum leh tawh loh tur a ni.  
Tichuan ni sa takah ni sawm tal pho tur a ni a,  
lei bawlhhlawh kha pakhat mah a kai tur a ni lo.  
A fai thei ang bera then fai a, ro taka pho hnuah  
ip faia khungin hmun rovah dah tur a ni. A  
hnawng emaw, bawlhhlawh kai chungah dah  
chuan a tawih hma em em a ni.

Hetiang ang thlapa sawisak chuan hun rei tak a dah that theih a. Kan Zoram eikhawp tal hi chu mi ram atanga la chhuak lova, thar chhuah ve a chakawm hle mai.

## PURUN SEN (ONION)

Purun sen pawh hi a lei vel buatsaih dan kha chu, Purun var nen a inang chiah a. A Phun hun pawh a inang a, mahse Purun sen hi chu a thar hma ceuh va, march thla a tuh kha, July leh August thlaah a chawh a hun mai thin.

A bulbawk phun ai chuan a chi kuitiah hi a that zawk bakah sen a tlem a, chuvangin a chi kuitiah hi an uar em em a ni.

A KUNG ENKAWL DAN : A chi kuitiah March ami chu May thlaah phunsawn tur a ni a. A phun sawna tur lei chawhphut kha kutphah long vela zau, chuuang bawka thukin laikhuar ila, a Purun zung nghahna lai tur takah khan balu lei dah hmasak ni so la, tichuan lei pangngaia vur leh mai tur a ni.

Purun var angin tui a mamawh nasa ve lova, thlai dang ang bawkin a tawh chauhva a hnawn chuan a tha duh em em tho a ni.

A hnah a that lutuk chuan a bul a te duh a, leitha pek nasat a ngai lo va. Tin, chawh a hun hma thla khat velah a hnah a rawn kaurau tan thit thot ang a, tichuan a kung kha inches hnih emaw, inches thum emaw zuah a, tanchham vek

tur a ni a. Tin, a kung tanchhumah khen ruah a lo sura tui a luh loh nan hnangin emaw, lazain emaw tawnpin tur a ni.

Tin, a kung tawnpin hi a tha ber chu a ni na a, hna a tih hautak avangin a kung tanchhum chiah lovin ulhtiah a, kawihthleh mai tur a ni.

A chawh dan leh a pho ro dan chu purun var ang tho kha a ni. Tin, September thlaa kuitiah lehin February thla velah a thar leh thei thin. Kan ram boruak hi a ngein em em a, kum khatah vawilunh awleam takin a thar theih a ni. Purun var ang thovin nikang a mamawh em em a ni. Tuna kan ei ang hi "Strutgard giant" an ti a. A thar hlawk thei ber chi a ni.

Rannung leh a hrik tha lovin a bawm ve ngai lova, mahse a chi chang tha lo chin chuan, a bul a baw lovin a kungah a bawk nawlh a, eitham chuang si lovin, chutianga a awm chuan paih nghal zel tur a ni.

### PARSNIPS (Bulbawk thlum)

Bul bawk nei zawng zawng zinga hlu ber a ni a, Mizovin bul-nih (mula) kan tih ang hian bul bawk var a nei a, a hnah chu sahmul puan anga chhah leh nem a ni a, a bul chu hel-ei, a thlum, zawng tur bul angin a thlum a, tui a ngah a, chakna a tam bawk a.

A phun dan chu, a phunna tur lei kha inches sawm vela thukin chawh phut tur a ni. Feet khat

leh a chanvea hlaah phun tur a ni. Phunna lai tur hai, khuarah khan balu leh leitha dah hmasak tur a ni. Tichuan, kar hnih danah chawh phut zel tur a ni a, March thlaa phun chu August thlaah a puitling a, September thlaa phun lehin February thlaah a thar leh thin.

Parsnisps hi hrang tam tak a awm a. Tun-lai a khawvel a an chin lar ber mai chu Hollow Grown Improved leh "White Gem" an ti a. White Gem an tih hi chu a bul a te deuh va, Hollow Grown Improved ang hi chu a bul a len deuh zawk avangin an ching uar zawk mah a ni.

### MOTOR CHANA (Peas)

Chana hi a thar hmains enkawl a nuam em em a, thla thum chhungin a thar thei zel a. Kan ram boruak lum silo, vawt lutuk silo hi a ngeih em em bawk.

Bazara zawrh pangngai hi a to duh em em a. Phunna lai tur kha chawhphut hmasak tur a ni a. A chi tur kha zanhnih tua chiah hmasak a, lei chawh-phutah khan feet khat dan velah leia pil chauhvin dah mai tur a ni.

A hnah panga vel a lo chawr chhuahah a zik kha sihchhum tur a ni a, tichuan a lo tawi darh vak ang a, tin a hnah panga vel bawk a chhuah leha si chhum leh ila, a zamna chu mau phelin siam ni sela, tichuan chumi a lo chawr chhuah leh chuan a par tawh ang a, kung khat-ah pawh tam tak tak a rah thei a ni. Chana hi



feet ruk vel a zari thei a, a enkawl a nuam em em a, chakina a, khawvela thlai lar ber pawl a ni.

pat tantirhah khan leitha pek leh tur a ni, Tin, a bulah huh takin tui pek tur a ni a. Tui a hmuh that loh chuan a rah a pum tha thei thin lo a ni.

Chana hi Mizoramah chuan kum tjanin a thar thei a, thla thum lekah a thar thei zel a, enkawl a nuam em em bawk a ni. March thla-a tuh kha May thlaah a lo thar a, May thla vokañ khan tuhna pangngaiah leitha pek belh leh a, chin leh mai tur a ni. Tin, a kung khan leitha a siam theih bawk avangin, phuana ngaia phuun khan a tha duh tawlh tawlh thin.

Chana a lo hmin a, lawh a lo hun chuan, a rah kha a lo ro va, bawihhlawh tel lova kheh a, ni saah ni sawm tal pho ro ila, tichuan hun rei tak a dahthat theih a ni.

Chana hi chi hrang tam tak a awm a, Kelvaden Wonder, Kelvaden Monarch, Little Marrel, Elderman, Giant Stride-te an ti a. Tuna Mizoram-a Chana kan hmuh tam berte hi Elderman leh Giant Stride-te an ni. Heng chi pahnihte hi an rah hnem theih bik avangin khawvel-a an uar berte an ni.

### ALU (Potatoes)

Alu hi Europe leh U.S.A. leh Canada, Russia ramah te, buhfai thar ve theih lohna ramah Alu

hi chaw pakhata ring an tam avangin, khawvela thlai lar ber leh chin hlawh ber a ni.

Mizoram-ah chuan kum khatah vawi thum lai a ther thei a, mahse tlangram ruahtui tam lutukin a tithawh duh avangin kum khatah vawh hnih a thar theih.

Alu hi phai, ramah chuan ni sawmruk atanga ni sawmsarih velah a puitling a, mahse tlang ramah chuan ni za atanga ni za leh sawmhnh chhungin a thar thin.

Mizoram-ah chuan September thlaah ching ila, November atanga December thlaah chawh a hun ang a, tichuan January thlaah chin leh ni sela, March leh April-ah chawh a hun leh ang.

PHUNNA LEI BUATSAIH DAN : Phunna tur lei kha inches ruk vela thuka chawhphut a, leitha pawlh tur a ni. Tichuan, phunna turah tui a hnawng chip chepa leih tur a ni. Tichuan, feet khat kar danah zel chin tur a ni. A fai thei ang bera englai pawha thlawh tur a ni. Chin atanga thla khatah lei chawh phut a leitha pek leh tur a ni.

A CHIN DAN : Alu hi a chi atanga chin a ni fo na-in, a bul te deuh chin a lar zawk mah a, a pum te te, a hrisel tha an ching leh mai thin. Tin, a pum lian hrisel tha pawh zai phelin, a mit pahnih zel hi chi khat atan an ching thin bawh.

A chawh hunah chuan a hnah a lo eng ang a, tichuan a kung chu tanchhum tur a ni a, tan-

chhum hnuah chawhkar khat'vel cho lova dah leh tur a ni. Tin, a kung a en loh pawhin thla thum a tlin tawh chuan chawh chhin a, kut zung-pui leh zungchalin na deuhvin hmet vak ila, a kawr kha a pilh theih loh chuan chawh a hun tawh tihna a ni a, a kung kha tanghman vek tur a ni. Tichuan kar khat hnuah chawh tur a ni a, a ro kim thlapah bawlhhlawh kai lovin saip fai takah khung tur a ni a, tichuan rei tak tak a dah that theih a ni. A hnawng chung emaw, lei kai luai bawk si a saip-a khung mai chuan ni sawm vel chhungin a tawih chhe vek zel a ni.

Alu hi chihrang tam tak a awm a, kan ram (tiang ram) atana tha chu, Kufri Chandramukli leh Kufri Jyoti leh Kufri Sindhuri-te a ni.

Alu hi natna hrikin a bawm duh em em a, a bul bawk kha a duk thluah thluah a, a hnah a lo dan sawp sawp chuan a tawih mai thin. Vawikhata tihreh dan a awm lova, chuvangin he natna a kai veleh hian paih nghal vat tur a ni. Tin, hetiang natna hi a kai loh nan chin atanga kar hnihnaah Bordianx emaw Zine damdawiin kar hnih dan zelah kah ni sela, hetiang hri hi a vei lo mai ang.

### BULUIH (Radish)

Hei pawh hi Mizoramah chuan fur laia ruah-tui a tam lutuk avangin, thlasik thlai kan ti leh mai ang a, Buluih kan tih ang chi hi a ni. Chi hrang tam tak a awm a, a bul bial sen te, a



tung sei, a sen chi tho leh a var chite an ni a. Sap-ho chuan a bik takin French hian an uar lehual a, hetiang Radish tel lo chuan chaw a tling lo an ti thin. Mizorama kan chin lar Mula kan tih mai hi, Japanese "Radish White an tu a. August thlaah a chin a hun a, chinna lai tur kha, inches ruk vela thuka laihkhwar tur a ni a, kawng zawng neiin fel taka inches khat leh a charvo inkara phun tur a-ni a. Kan ramah hian a bul bial chi leh a sei chi pawh a tha thei vaem em a. A bial chi hi chu a thar hma em em a, thlakhat, phun atanga chawlhkar linaah chawh a hun zel thin a. A sei chi erawh hi chu thla hnih atanga thla thum emaw lai a-duh thin. He thlai hian leichhia a ngam em em a, damah pawh a bul a tak thei a, nikangah pawh. Amaherawh chu tui a mamawh hle a ni.

## TOMATO

Tomato hi kan taksa tan a thlat em em bakah thlai thar awl leh enkawl awlsam tak a nih avangin khawvel hmun tinah hian a lar em em a ni.

Tomato hian ruah sur hi a huat tlat avangin khawvel hmun tina chingtu ten ruah sur loh lai an chuh vek thin. Kan ramah chuan September thlaa kui tiah a, October thlaa phun sawn leh ni sela, tichuan ruahtui hul lai December leh January thla velah seng a lo hun ang. Tin, December thlaah pawh kui ila, to ruahtui tlak hma, March thla velah a hmin leh hman tawh a nu.

Tomato hian leitha a mamawh tam lova, tui a mamawh tam lo bawk. Huh chip chepa, ni hnih ni thun, danah pekin a tawh chauh a ni.

Tomato hi pot (hmun bel)-ah pawh nasa takin a tihrah theih a. Fur lai pawhin hlumbel kha hmun hulah dah mai ila, a rah tha duh em em a ni. Tin, hmun tam takah chuan thelretpuanin an khuh (zar) hul a, nisa a mamawh nasat avangin khaw that lai chuan a khuhna chu an hlip leh mai thin bawk.

Tomato hi kuitiah chi a ni a, a hnahpui pali a chhuahah phun sawn tur a ni. Chutia i phun nun chu a hnah kau tinah khan a kung peng tur a lo chawr chhuak hluam hluam ang a, chu chu sihchhum zel tur a ni. Tin, a hnah leh a hnah inkarah a par (a kau) niawm takin a rawn chawr chhuak fur bawk ang a, tichuan chung a para kau (struss) chu paruk vel a lo chhuahah a zik-pui pawh sihchhum tur a ni. Tin, tomato kung hi phunsawn veleh mauphel feet li vela sei, khauh tak, a bula vih phunin a kung lo thang sang hmasa apiang kha hnang nem deuh emaw saip hruiin emaw tawn luh zel tur a ni. Tichuan a kung chu fel takin a ding auh ang a, a rah a tha duhin a kung a hrisel duh bawk. A kung uai duai leh lei a sik hnup chuan a hmin that duh loh bakah a hrikin a ei duh bik a ni.

Tomato rah hi a dup thleng thlenga zuah tur a ni lova, a then a hmin sen tawh chuan a vaiin sen lo mahse lawh mai tur a ni. A rah bawr khatah pawh a then a hmin lain a then te reuh

te a lo awm thin a, a hmin chauh kha a hnunpu<sup>u</sup>  
 telin sakawrbakcheh-in fel taka cheh thlak tur a  
 ni a, a rah la hmin lo kha dim taka la zuah tur  
 a ni a. Tin, a hmin kan lawh kha ni saah <sup>nihhat</sup>  
 emaw nihnih emaw pho leh tur a ni a. Tichuan  
 hraih leh tura hmun danga thawh tur a nih chuan  
 bawhrang-ah lehkhachhia emaw, buhpawl emaw  
 chhah deuhva phah hmasain insi lovin fel takih  
 rem la, tichuan a chungah lehkhachhia chu chhah  
 takin dah leh la, a chungah chuan tomato rah  
 chu dah leh mai tur a ni. Tichuan hun rei tak a  
 dahhat theih a, hmun hla tak takah a thawh  
 chhuah theih thin a ni.

Tomato hian, leitha chi, khat Potash a tlak-  
 chham chuan, a hnah a lo' var phuar phuar a, a  
 then a khawr a, e hnah a chhah bik thin. Hetiang  
 a a hnah lo awm chuan Tuisen kan tih ang  
 (Potassium Permanganate) baltin khatah thirfian  
 hnih pawlhin kartin a zung bulah vawikhat leih  
 ila, thlakhat chhung pek tur a ni. Tichuan a kung  
 a hrisel ang a, a rah a nget lovang a, a hmin pawh  
 a sen tha duh em em bawh a ni.

Tomato hi chi hrang tam tak a awm a, tlang  
 ram, kan ramah hi chuan, Pusa Ruby te, Punajb  
 Chuhara, Pusa, Gaurav te an tha duh em em a ni.

## BAWKBAWN

Bawkbawn hi kan chawhmeh lar ber te zing  
 a. mi a. ni a, phun aun a awl em em a. A rah  
 duh em em bawh a ni. Feet hnih kardana phun



tur a ni a. A phun hun hi May thla atanga June  
thla a ni a. Bawkbawn rah hi a nget duh hle a,  
chuvangin phunna tur leiah khan BHC phul tel  
tur a ni. Tin, vawikhat a rah lawh vek hauah, a  
zik zawng zawng leh a rahna hnu zar kha tanchum  
vek ila, a nula reiin a rah a tam duh a ni. Tin,  
tui pek that chuan thal lai pawhin a rah reag  
thei a ni.

## HMAZIL

Hmazil hi thlai chu a ni na a, thei zingah  
pawh an telh tho thin a, ruahtui tam lutuk ai chuan  
a hul lam a mamawh a, nisa a mamawh bawh a.  
Ruahsur nasat lutuknqah chuan, a kung a lawng  
duh em em bakah a zik a kir a, par chhuah tha lo  
in leh, thang thei lovin a awm duh hle a ni. Leitha  
a mamawh tam a, tin, a kung kha a hnah pui  
pangavel a chhuahah a zamna siam tur a ni a,  
leia zamtir aiin, a kanga zamtirin a rah tha duh a.  
A par a chhuah tan tirhin leitha pek leh tur a ni.  
Tin Varanda (bathlar)-ah hlumbelah pawh khawi  
rah a awlsam em em a ni.

Thla thum chhungin a rah hman a, feet khat  
leh a chanve kar danah phun tur a ni a. Phunna  
lei chu dip dapa siam tur a ni. Phunsawn hian a  
nun har avangin a chi tuhna lai tur kha buatsaih  
sa thlap a, a chi fang khat emaw, fang hnih  
emaw thlak mai tur a ni.

Hmazil chi thate chu Pusa Sharhati, Luk-  
now Safeda, Hara Madhu, Durgapura Madhu te  
an ni.

## DAWNFAWH

Dawnfawh hi a kung enkawl dan leh leitha a mamawh dan te, tui a mamawh vak loh dante chu, Hmazil ang tho hi a ni a. Pot-ah leh inbul luanah a tha duh em em a, intihlmuh chi tak a ni.

A chi hi tlangram, kan rama tha duh chite chu, Sugar Baby, New Hampshire, Mitget, Asahi Yamato, Pusa Bedana-te an ni.

## BADAM

Khawvel thlai chin zinga lar ber, a hriak er hi thl kan nan leh kawng tam tak takah a tang a, a, tin, a erfu hi a tuin, ran chawah-te an hmang lar leh a, thlei zawng zawng zingah hian a tangkai ber pawl a ni hial awm e.

Lei laih phut a, tlanglem ang reng feet hnih a zauva haipawn tur a ni a, chumi kar danah chuan, tuihawk luankawr fel taka siam ni sela, tichuan feet khat kar danah Badama chi chu thuk lo tea nem phum mai tur a ni. Tin Balu lei hi a ngeih avangin, lei haipawn a, a chi chinna laiah khan dah den den ila, a bul a tak duh a, mahse lei chhia angam em em avangin, Balu lei awm loh naah pawh leitha pangngaiah chuan a tak duh em em a, a bik takin kan Zoramah hian a tha duh em em a, khawilai boruakah pawh hian ei a tling thei vek a ni.

Phai ramah chuan thla thum chhungin a thar a, tlang ramah chuan, thla li leh thla ngaah a thar

thei chung a ni. Karm khatah vawi hnih a thar thei a. Nise a mamawhem em a, ruahtui tam a pawit mawh lom lova, tin, tui tam vak lovah pawh chinna lai kha a hnawn that chuan a pawl hauh lo. Thlai enkawl nuam leh thar tam awl em em a ni.

A chin hun hmasa chu March thla to ruah hawn hmawh ni sela, tichuan July thlaah a thar ang a. August thla-ah chin leh ni sela, December thla velah a lo thar leh thei ang.

Thlai kan chin hian a enkawl dan a zirin a thar tamin a tlem thei em em a, ngun taka enkawl zui ni sela. Tin, Badam pawh hi a to atanga thla khatah a bul vel kha chawhphut leh ni sela, thir zumin. Tichuan thla tin vawi khat, thla thum chhungin chawhphut ziah tur a ni. Hnamin a dip tur a ni lo va, englai pawhin a fai reng tur a ni.

Tin, a chawh hunah chuan a hnah a lo eng thut ang a, tichuan, a kung tanchhum mai lovin, nem thiah tur a ni. A kung nem thluk atanga kar khatah chawh tur a ni. Tichuan, lei kai zawng zawng chu fai taka then tur a ni. Kar khat vel emaw, a kawr ro kim thlap thlengin ni saah pho tur a ni. Tichuan, a ro that em em hnua buara emaw, ip fai takah khung ila, rei tak tak a dah that theih a ni. Bawhlhlawh kai chung a hnawn bawh si chuan a tawih chhe vat thin.

**BADAM HRIAK LAK DAN :** Badam hriak lak dan hi, chhawhchhi te, Antam hriak lak dante nen hian thuhmun tho a ni a. A kawr leh a reh mum tuanta a kawr sen la awm leh hi, fai taka

then lehin, a sawm thei ang berin tisawm ila, tichuan engmah pawlh hauh lova ur lum tur a ni. A urlum dan chu, zu thlawr dan ang deuhvin bel lian takah tui chhuan sova, a chung a bel dang, a mawng pawp emaw, tihpawh deuh siar siar chhungah badam chu bel lian tui so chhungah chuan chhuan a, urlumin, a sat lai tak chuan puan pan thianghlim taka fun khawm hlawm a, thir pheka na taka chehin a hriak chu a lo chhuak mai ang. Tichuan a ei theih nghal mai ang. Tin, kurtai thlengah pawh hian a hnuaiah meilin na lo takin an chhem a, an urlum thin bawk. Mahni intedelh nana chin uar chi tak a ni ngei ang.

## SAWHTHING

Sawhthing an hmuhchhuahna ram chu South East Asia ramah an ti a. Kan Mizoram pawh hi sawhthingin a ngeih em avangin a bul lo to chhuahna ram a ni ve ngei ang.

Sawhthing hi khawvelah an hmang tangkai em em a. Chawhmeh tih tui nan, damdawi atan, a hriak sawr atan, zu bear atan te, tin, a hriak hi kawng chi hrang tam takah an hmang tangkai bawk a ni.

India ram hian kumtin ton singnga vel (tihro tawh hnuin) a thar chhuak a, tichuan Sap ramah leh Arab ramah te an thawn chhuak thin.

Sawhthing hian nisa a mamawh hle nain, daihlim deuhah leh dam deuhah pawh a tha duh em em tho. Mizoramah phei hi chuan a khawilai

lei pawh hi a ngeih em em vek mai a ni. Lei-thar (Vigin Soil) kumkhat siamnaah chuan leitha pawh a ngai lo va, a hmun ngaiah kum hnih kum thum neih nawn dawnin leitha a ngai a. Bawngkek leh Vawkek te hi an ngeih em em a, sawhthing chin hma thlakhatah lei kha choh khawh vekin, bawngkek tin khat leh lei tinhnih intluk tawn tur anga hisapin, bawngkek emaw, vawkek emaw dah darh a, choh khawh tur a ni. Tichuan feet khat kar danah sawhthing chi lin mai tur a ni. Nisa a mamawh lutuk lova, chuvangin Serthlum luanakte an ching ber a. Khatia kum tin leitha dah kha serthlumin a lo ngeih bawka. tichuan huan nghet neihna ni pahin a thar tha duh em em a ni.

A chin hun chu toruah tlak hma ngeih ni sela, tichuan a tak tna dan bik a ni.

A chi hi a thlar te ni lovin, a lian chin tur a ni.

Sawhthing hi India ram atanga thawh chhuah a nihin a rosain an thawh chhuak ber thin. Mizoram atang hi chuan a hringa thawh chhuah kan tum a, a enkawldan zir hauh lovin, a awlsam dan ang angin kan thun bawrh bawrh a, a chhe duh em em a ni.

A CHAWH DAN : Sawhthing tak chhe lo thei ang berin tuthlawh lian tak hman tur a ni a. Tichuan lei kai zawng zawng leh a zung hring la awnte kha thenfai a, tuiah vawi thum tal silfai tur a ni. Tichuan ni saah ni hnih emaw, ni thum tal pho tur a ni. Buara ip fai takah thun tur a ni a, chhe lovin rei tak a dahthat theih a ni.



**SAWHTHING TIHRO DAN :** Sawhthing bawr chu bal thlak vek tur a ni a, tichuan zailep a, tuiah zan khat chiah tur a ni. A kawr kha a hmeh thlak zung zung theih a, kuta a kawr la hmeh thlak theih loh a awm chuan, mau ziahkur siam a, a pil (a kawr) chu thai thlak tur a ni. A kawr then fai hnuah chuan a fai lehzuai nan tuiah vawi khat sil leh tur a ni. Tichuan ni saah pho rova, ni sat dana zirin kar khat emaw, kar hnih emaw pho a ngai mai thei. A ro that loh va, a hnawng lai deuhte a awm chuan a hmuar chhe thei a, chuvangin ro taka pho nise a tha a ni.

Tichuan, ip fai takah khungin, rampawna thawnchhuah tlak a ni mai ang. A hring Quintal l. hatah hian a ro Kg 16 atanga Kg 25 a chhuak thei a. Kan ram hruaitute hian sawhthing ro thawn chhuah ve dan, Arab ram lamah te ngaihtuah ve ta se la. Kan ramah a tha si a, sum hnar tha tak a nih a beiseiawm hle a ni.

**SAWHTHING A HRI LAKA VEN DAN :**

Sawhthing hi a chawh hma, a tak tan tirhin, natna hrikin a bawm duh hle a.

(1) A zung eichhia a, a bul tak lai ei ngetin, a tak insiam tur zawng zawng a eichhe thin a, tichuan a kung pawh a lo tawih mai thun a. Hetiang natna rannungin a bawm chuan Dimethoate emaw Phosphamidon-a kah tur a ni a, a bulah Granular insecticides phul tur a ni.

(2) A hnaha pangang inkhawr hian a bul a tichhe thei a, hei pawh hi Dimethoate emaw Phosphamidon-a kah tur a ni.

(3) SOFT ROT : Hei hi hrik hlauhawm ber a ni a, he sawhthing natna hi a kai darh hma em em bawk a, a hmun pumpuiah a darh vek thin. Mi-zo chuan hei hi sawhthing tam kum kan ti mai thin.

A lo lan tan dan chu, a hnah chhip zum a lo eng a, a eng thla tawlh tawlh a, a kung pumpui a lo en chhuah ve leh, a hnah chhip zum atang bawkin a lo ro tan ta a, a kung pumpui chu a lo thi ta puk puk mai thin a ni. Hetiang hrikin a ei tawh chuan tihdam ngaihna a awm tawh lova, kum khat thawhrah kha a hlawhchham thak thin a ni, A ram leilung dik loh vang a ni pakhat a, tin, a chi dahthat loh vang te, a pil hmeh pilh puk puk theih tawh chin hian hetiang hrik hi a pu tel duh bawk a. Chuvangin a chi lin tur kha hmun hulah dahthat tur a ni a, theih phei chu ni se, Agallol an tih damdawi, tuisik dut no li-ah dut no khat pawlhin a chi dahthat hma khan theh ni sela, hetiang natna hi a kai tnei lo a ni.

Tin, hmun hnawng lutukah hetiang natna hrik hi a awm duh bawk.

## AIENG

Aieng hi India ram hmun tinah khawlum leh khawvawtah a tha duh em em a. Kan Zoramah phei hi chuan kan boruak nen a inmil bik emaw chu aw tih theih khawpin a tha duh a. Leitha pek hauh lovin, huan awih tak lungthil hmunah pawh kan ching chhin ve a, a tak duh em em a ni.

India ram hian kumtinin, Aieng thawn chhuah  
manah Rs. 424 crore ala tiem lo a la lut ziah a,  
a thawnchhuahna ramte chu Iran, Lybia, Japan,  
Maracco, U. S A, U.K. te an ni.

Aieng hian tui a mamawh tam a, nisa a ma-  
mawh em em bawk a. Kan Zoramah hi chuan  
kumkhatat vawikhat a thar thei chauh va, a chi lin  
atang a, thlarial atang a thlasawm lai a mamawh  
a, March emaw April-ah emaw lin tur a ni a. Ti-  
chuan September, October tula velah a chawh a lo  
hun leh thin a ni.

Phun hmam lei kha chawhphut hmasaka,  
leitha Bawngkek emaw Vawkek emaw hman tur a ni.  
Sawhthing chinna tur buatsaih ang tho khan buats-  
saih tur a ni. Feet hnih kar danah phun tur a ni.

Sawhthing ang thoin, Coconut leh kuhva,  
Serthlum kung hnuaiah an ching thin.

Kan Zoramah hi chuan Serthlum kung  
hnuaiah emaw a chinpawlh chi ang.

A chawh hun chuan a kung a lo eng a, a lo  
ro thin. Tichuan a chawh hunah chuan fai taka  
sil a, a zung la awm leh lei kaite chu tihfai vek  
tur a ni.

DAH THAT DAN ; A peng kha tuai thlak vek  
tur a ni a, a bulpui ber kha chu a chi atan dah-  
that leh tur a ni. Tichuan a peng tuai thlak te chu  
bel mawng chhah takah chhum tur a ni a, a chung-  
ah khuhrianga chhin lovin, amah Aieng hnatin  
emaw changel hnatin emaw chhin tur a ni. Tichuan  
a lo so ang a, a so phuan chu a lo var hunah a  
amin tihna a lo niang a, nisaah karhnih chung  
pho ro tur a ni. A ro rap thlenga pho tur a ni.

Chutia ro taka pho tawh chu sumah a pil faitaka khawk turin den sawk sawk a, fai taka thap emaw then emaw tur a ni a, tichuan ram pawna thawn tlak a lo ni mai ang.

Tin, mahni Aieng siamchawp emaw, hralh chawp tur chu zaliep a, tui a chhum tur a ni a, a chungka kan sawi tawh angin, a so phawn hnua a rawnvar hnua suan a, ro tak a pho in, a pil kha mauxiehkurin emaw, suma denin emaw then-fai vek hnua, a hersawmna buhdangkawliah emaw, electrick rawtsawmna khawlah emaw hersawm mai tur a ni. Tichuan Aieng thar rimtui si, Shillong Aieng aia tui a lo ni mai ang.

Tin, Aieng chin hi intihmuhi ramdanga thawn chhuah khawp chu nei ila, kan ram sumhnar ber a tling thei ngei ang. Kan sawi tawh angin, tlangram lo neih kumtina sawn aiin lo hmun khat ah wawi tam tak a chin theih a, serthlun huan karah a chin theih reng bawk a ni.

Aieng chi tha tunlai a, India rama lar deuh deuh te, tlangram a tha duh chi te, Armoor, Duggeriala, Myduku, Alleppey te an ni.

**AIENG NATNA TE :** (1) Shoot Borer : Hei hi a bulak eingettu a ni a, Aieng tak hmasa kha a ei kawrawng a, a kungpuiah lutin a ei thin a He hrik hi Dimethoate damdawia kah tur a ni.

(2) Leaf Roller : Pangang, a hnua zialkhawr chi a ni a, a hnua a khawr atargin a zikpuiah lutthla in a kungpui a eichhe thin a ni.

Hei pawh hi damdawi Dimethoate leh Phosphamidon-a kah tur ni.

(3) A zung peng atanga rannung, rawn ei kawtu

a ni a, hei pawh hi Malathron leh Dimethoate, a phun laia tlemte leiah dahin, he hrik hi a veng thei a ni.

(4) Leaf Elotch : Aieng hnah kha a tawn tawm a ukin a lo awm thluah thluah a, a eng uk khurin emaw' a uk takin emaw a lo awm leh a, a hnah a lo ro va, a kung chu a thi a, a bul chu a lo tawih thin a ni. He natna hi Bordeaux ien Dithane-a kah vatin a dam leh mai thin a ni.

(5) Leaf Spot : Hei pawh hi a hnah chhung lamah a lo uk deuh thluah a, a chang chuan a hnah a var deuh thluah bawk a, tichuan a hnah tlang kha a lo ro chhuak a, a kung pumpui a thi a, a bul a tak thei thin lo a ni. Bordeaux emaw Dithane M-45-a kah vat tur a ni.

(6) Rhizome Rot : A hnah tlang a ro kual a, a kung pui a lo tawih a, tichuan a bul nen lam a tawih vek thin a ni. Hei hi a chi dik loh vanga awm a ni thin a, chuvangin a chin dawnah Bordeaux damdawia theh huh emaw, kah hmasak tur a ni.

## CHHAWHCHHI

Chhawhchhi hi Mizoramah pawh hian kan ching uar ve hle a, a hriak hi khawvela thlai chi lar ber te zing a mi a ni. Badam ang bawka hriak nei tha leh tangkai a ni. Chhibung hian hriak a ngah bik avangin, chin lar ber a ni a, a hriak sawr dan chu Badam hriak sawr dan nen khan a inang chiah a ni. A sawrna fu (Oil cake) an tih pawh Bawng leh Ar tan a thain, man to tak tak in a hralh theih a ni.

CHINNA LEI BUATSAH DAN : Kan ram boruak leh ruahtui tla hi a that avangin, khawi lai hmunah pawh a puitling thei a, lo thar, vahthar

(Virgin- Land) ah pheï chuan leitha pok hauh loh pawhñ, kumhñih emaw kumthum pawh a chinna ngaiah a puitling thei em em a ni. Hmun sawn lova a ngairenga chin chuan, Bawngkek leitha emaw, Vawkek emaw a ngeih em ema, leitha tin khat leh lei pangngai tin hnih inchawhpawlh vel tur ang a, chawhpawlh mai tur a ni. Tin, terrace-ah pheï chuan tha duh tak a ni a. Balu lei hi a ngeih duh viau a, mahse balu lei awmlohnaah pawh, kan Zoramah hi chuan ei a tling thei vek a ni. Duh ang chuan, balu awmhngaihnaah chuan tam vak lo dah den den ni sela, leitha kha a vawng rei duh a, lei a tha duh bik a ni.

Tin, Bawngkek leitha awmlohnaah chuan vai leitha, leichi (Urea) hman tur a ni. A chi theh ruala theh ve mai tur a ni a, mihringun chi al kan ei anga al tawh turin theh ni sela, tichuan thlakhat hnuak thlawhfai a, chutiang zat bawh theh leh tur a ni.

**A CHI THEH DAN :** A chi theh dan tlangpui chu, jin khat hmunah dut no li (KG. 1) vel a tak a, tawng khat leh a chanve kardanah phun sawn tur a ni, uluk taka thlawhfai a, kawng nei a phun thlap in a thar hlawk thin a. Tin, chhawh-chhi hian nisa a mamawh hle avangin damah ai chuan nikangah a hmun siamin a hlawk duh bik a ni. Tin a hriak sawr tharah hian vitamin tha a tam avangin, mihring taksa tan a tha em em a ni. Tun ai hian ching uar ila, kan ram'eitur tal ching chhuak ila, pawisa tam tak hlawh chhuahna a ni.

Ngun taka enkawlin a tha duh a, a hlawk bik a ni,

**A CHI THAR THEI ZAT :** Tin khat hmunnah Quintal

thum, atanga Quintal li a thar thei a chhawhchhi  
dut no nah, a hriak no khat leh a chanve  
atanga, no hnih a haw thei, Tina Mizorama kan  
ohin lar ber Chhibung hi a hlawk ber a ni.

**NATNA ATANGA VEN DAN** : Chhawhchhi hi  
rannungin, a par lai te, a kungah a hawh duh  
a, thosinloin phuh ni sela, damdawi dang hmang  
hauh lo pawhin a tha duh em em a ni.

### NIHAWI

Nihawi chi hi khawvelah a lar tak meuh a,  
a thar hma avang leh a than duh avangte a  
hnah hlai tak hian hnim dang a dip a, a thlawh-  
fai leh a enkaw! a nuam a, a hriak hi a hlawk  
em em a ni. Chawhneh siamna chang ni lo,  
damdawi siam nan te a hriak hi an hmang nasa  
em em a, U. S. A-ah pheih khu chuan, Nihawi  
hriak an hmang nasa lehzuai a ni.

**LEI BUATSAM DAN** : Leichhia a ngam hle a.  
Nihawi tuh takah nisa a mamawh hle a. Leitha  
vakloah pawh a tha duh hle a, ei a tling thei tho  
a ni. Chhawhchhi lei buatsam dan nen khan a in  
ang reng a ni. A thar hma a, ni sawmkaw chhupungin  
a thar thei zel a, lei hnawng tawh chauh tui tin  
theih loh naah tuh mai tur a ni. Englaipawhin  
a thar thei reng a ni.

**A CHIN DAN** : Tin hmunah a chi Kg li a duh a,  
bikhatah kung khat zel tuhin, penhnih kar danah  
zel tuh pisela, Tichuan ngun taka thlawh fai leh  
enkaw! thamna hmunah chuan, tinkhat hmunah Kg  
za atanga Kg, za sawmnga a thar thei a ni, A hriak  
sawr dan chu Badam te Chhawhchhi te ang tho a ni

**A NATNA VEN DAN** : Khau leh pangang laka  
ven nan, thosi hlo dut-no hnih leh tui baltin khat  
chawhpawh a kah-tur a ni, Tin, tuh hmain a chi  
no li kha Dithane M 45 dip thirfian lian hniha  
chawhpawh ni sela, natna chi hrang hrang lak  
atangin a veng thei a ni.

## BEKANG

Bekang hi Pi leh Pu atang tawh a kan lo chin uar tawh a ni. A tangkai tur angin kan la hmang chiah lo na a, bazarah a hum ringawt pawh man man tham a ni. Ram changkang zawk phei chuan, Bekangsa, Bekanghnute, Bekang Butter, Bekang Cheese te an siam a, Bawnghnute an hman tangkai aimahin Bekang hi an ti lar zawk a ni.

**A CHINNA LEI BUATSAIH DAN :** Leitak hmun a duh a, lei chhia a ngam em em a, amah bekang hi lei tithatu a nih avangin leitha pawlh vak lo pawhin, kan ram leilungah hian a tha duh em em vek a ni. A zung leh a hnahah hian, lei tithatu a awm avangin, leichhe takah pawh ching ila, lei a titha tawlh tawlh a, tin, a kung leh Bekang vuakna ro kha halin leitha em em a ni nghal bawk thin. Chinna lai hmun kha chehphut ni sela, Bekang hian nisa a mamawh nasat avangin nikangah chin ngei nisela, Tui a mamawh tam bawk a, kan ramah hian June thla vel a tuhin November thla atanga December thla thleng a thar thei a ni.

**A CHIN DAN :** A chi hi tinhmunah Kg. 40 vel a tawk a, bikhatah fangthum vel thlak ni sela, tawng khat leh a chanve dan zelah tuh ni sela, tuh hma hian zankhat tui a chiah ni sela, a tokim duh a, lei chi khat Kizobium nen chiah pawlh ni sela, a rah a ti hlawk duh em em a ni. Tui chim tawk aia kutzung hnih bawk vel a sangin tui kha leih tur a ni a. Tichuan tui tin khatah Kizobium leitha chu dutno hnih vel telh tur a ni.

**RANNUNG LEH NATNA LAK A VEN DAN :** Bekang chuan hnahpui panga emaw paruk emaw vela chhuah hunah, a dipin a bul atanga kutzung chal chen velah tam lo te in phul kual tur a ni a. Tichuan a hri lakah a veng a, Bekangin a ngeih em em bawk a ni.



Tin, a hnah eichhe tu rannung tereunte ie emaw, a hnah enghri a awm chuan Diamethion a kah tur a ni. Tui baltin khatah thirfiante khat pawlhin kartin vawikhat zel tnla khat chung tur a ni. Hetiang a ngun tak a enkawl chuan, tin-hmunah Quintal li a thar thei a ni.

**BEKANGHNUTE SIAM DAN :** A hmasa berin bekang chu faitaka a hum chu silfaiin zanknat tuih chiahpuam tur a ni a. Tichuan sawmtak a her hnuah, bekang hersawmsa no liah tuisik no ruk leihin zankhat bawk chiah leh tur a ni a. Tichuan chhuansovin puan fai taka kuta sawr mai tur a ni. Tichuan hnute tui tak a lo ni a, thingpui pawlhan emaw, naupang hnek atan a tha em em a ni. Tin, damlo, tar chak lo leh thisenhniem neiten an ngeih em em bawk.

**BEKANG CHITHLUM (Choclate) SIAM DAN :** Bekang hnute sawrna fu kha bukin emaw, noa teh khawngin chini nen a inzat chiahin, chini no khat leh bekang hnute fu nokhatin tuisik nokhat nen thirbelah chhuan tur a ni a. Tichuan tuisik kang retin chini chhuanhmu nam ram ram in, han chawh chhinin tuisik awmtawh hauh lova chini leh be kang chu hneh taka chawhpawlhin, a hnang thluak thluakah, thlengvarah bun chhuah a, panrual takin dahthlaka chawh bial tur a ni. A daih hmam chemte luzumin, duhtawh a lianin rin sawm tur a ni. Tichuan a lo ro hunah kaihphel a awlsam a ni. Tin, thirbel a chhuan dawn khan, a beh lohna turin hriak rimchhe lo tur belah khan hnawih hmasak tur a ni.

**BEKANGSA SIAM DAN :** Bekang hnute sawrsa kha chhuangso lovin dutno li-ah Venegar thirfian lian li pawlhin, zankhat chiah tur a ni a. Tichuan a tuk zingah chuan tuisik leh Bekang chu a lo inhlir hluk ang a, bekang sa tur inhlir hluk mai chu tuisik tel lo thei ang berin lak chhuah ni se

la, tichuan thlengdar han takah pan rual takin  
mei na lo tein ur cherh cherh a, ur fo tur a ni  
a, tin a ro hman chemte lo zumin kutzungpui  
tiat velin thalichhum vek tur a ni a. Tichuan a ro  
hunah a tuai thlak zung zung theih a, meia ur  
khet loh pawhin ni saah pawh a pho ro theh  
mai a ni.

**BEKANG BUTTER SIAM DAN :** Bekang hnute  
chu darkar chanve vel chhuanso tur a ni a,  
Tichuan chhin lovin dahdaih ni sela, a chung  
langah chuan chhah takin a lo dak hluk ang a,  
chu chu lakchhuah a, vawksa thau kaw er ang  
hian reitak sahriak temte nen chhuan tur a ni a,  
chutia a thau lo iner khawm chu butter tui tak  
a lo ni mai.

### DAILUAN

Hedang Dailuah hi Mizoram-a kan ei lar ber  
a ni a, tangkaina tam tak a neih avangin chin a  
manhla hie a. A rah no laia behlawi rah angin  
a, wun nen a ei theih a, a kung ro leh a hnante  
chu lei tih that nan a tha em em a, bawng chaw  
atante a thain an hmang tangkai em em a ni.

**LEI BUATSAH DAN :** Mizoram-a lo kan hal thin  
ang hian kum khatna atan chuan lei tha leh laih  
phut kher a ngai lova, thlai dang kan tuh ang  
khan tuh mai tur a ni. Amaherawh chu kum hnih  
naah erawh chuan bawng ek emaw, vawk ek  
emaw, tin khat leh lei tha tin hnih pawh tur a  
ni. Tin, ek lei tha nei loh chuan, Japan hlo hnah  
leh Japan zawngtah hnah, thingkha hnah, tlang-  
sam hnante zut khawm a, lei chunga dah dakh a,  
cheh phut hnah tur a ni. Tichuan vai siam lei  
tha teih ngai lovin kan ramah hian a tha duh  
em em tho a ni.

**A CHIN DAN :** Biknatah a chi pahnih emaw  
tuh mai tur a ni. Pen hnih dan zelah chin tur  
a ni a. Tic huan tin khat hmunah a chi Kg. 15 vel

a tawk a, a chi hi tuh kher lo pawhin, a theh a theh pawhin a pawl lova. Dailuah hi phai ramah chuan thla thum (ni 90) chhungin a thar a, tiangramah erawh chuan, thla thum leh a chanve atanga thla li-ah a thar thin.

**A SENG DAN :** A kung a la hrin hlup lain, a rah chang tawh chu a lo uk thit thet ang a, tichuan a kung chu kih a, ni saah ro tak a nih thlenga pho tur a ni. Dailuah rah chu fai taka then tur a ni a, tichuan ni saah a ro thei ang bera pho leh tur a ni.

**A CHIN HUN :** Dailuah hian ruahtui tam lutuk a mamawh lova, nisa erawh a mawh nasa em em a ni. Chuvangin kan ramah hi chuan thlasik laia chin chi a ni a. September thla chawhnu lam leh October thla chawhma lam thlengin chin hun a ni a. Tichuan December thlaah a thar hman a. Kan ram eikhawp tal hi chu thar chhuak thei ila, vai rama thar aiin a hangtui bawk a, chakna a tam bik bawk nen, hlawk tham tak a ni ngei ang. Tin khat hmunah Quintal thum emaw Quintal li emaw a thar thei thin a ni.

A chi tha ching turin Agriculture mithiam-te rawn a tha.

### TEL ANTAM

Hei pawh hi kan rama tha duh chi leh chin uar chi a ni a, mi ram chin sa-a kan inngah a hun ta lo ve. Kan ram leilung hausakna ngei hian intodelh ve ila, hnam dingchhuak kan ni mai dawn si a.

Ruahtui tam tak a mamawh loh avang leh ni sa a mamawh nasat avangin kan ramah hi chuan thlasik lain a hlawk ber a ni. Tin, a hriak sawr dan chu Badam te, Chhawhchhi-te kan saw tak nen khan thuhmun reng a ni.

**A CHINNA LEILUNG BUATSAIH DAN :** A chin-na lei hi a hmaa thlai kan sawite nen khaan a inang deuh vek a. Mizorama lo kan vah hal' thar, lei tha hi a kum khatnaah chuan hnenak hrenpa ngai lovin a tha duh em em vek a, Mizo antam tampui that duhna lei angah hian a tha duh vek a ni. Tin, a kum hnihnaah pawh ei a la ting thei tho va, a kum thumnaah chuan hnim a lo tam leh zual a, di-te a lo to duh tawh avangin, lei tha bawng ek emaw, vawek ek emaw hneh taka chawh-pawh a, laih phut a tha a. Ek lei tha tin khat leh lei pangngai tin hnih ang bawek pawh tur a ni. Ek lei tha awm lohnaah chuan Japanhlo hnah emaw, thingkha hnah emaw, zawngtahte hnah emaw, tlangsam hnah emaw lei chunglangah rual taka dah tawih leh pawh a tha em em vek a ni.

**A CHIN DAN :** A chi hi a theha theh tur a ni a, rual taka lei a tlak theih nan lei dip nen chawh-pawh ni se la, tin hmunah a chi dut no riat vel a tawek a, zing lutuk lova suat tur a ni.

**EICHHETU RANNUNG LAKA VEN DAN :** Antam chu a lo dawng ang a, khap hnih vela sang a lo nihin, Malathion-a kah tur a ni. Tui baltin khatah no beng nei (YMA no) hnih pawlha kah tur a ni. Tichuan a par zawhah a kuhmum laiin, hetiang bawek hian kah leh tur a ni a, tlai lama kah tur a ni.

**A SENG DAN :** A kung a ro thet anga, a hnah-a tlak hunah a kung la ro chiah lo mahse sahthluk a, hmunrem laiah saip faitakah phoro tur a ni a. Karkhat pho hnueh thinga vuak keh tur a ni. Tichuan fai taka thap a, ni hnih emaw nisaah phoro leh tur a ni. Tichuan rei taka dah-that theih bakah a hriak er theih a lo ni ta a ni.

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## BUNG 2

### SUM CHANG THIAI

#### ALAICHI (CARDAMOM)

Alaichi kan tuh ang ni a ni a. Zoram a Aidu kan tuh non huan a inang hle a, a rah erawh a rin tui bik a. Aidu thatduhna hmunah chuan, a tlang-pu'n a tha duh em em ve zel a ni.

**A RAM LEILUNG NGEIH ZAWNG :** Kan sawi-tak angin Aidu leh Hnahthial thatduhnaah chuan a thaduh hle hlawm a. Ngawhnuai englaipawh a hnawng reng, hmun vawt lutuk lovah a tha duh a. Tin, ruahtui tamtawk chauh a mamawh bawh a ni. Ti chuan Cardamom phun dawn reng rengin, a engamah hmam, a hlmtu tur thing ngaihtuah hmasak a ngai a, tichuan ramugaw hnuai tuhfaiah phun ni sela, a thaduh em em a ni. Tin, ramngaw awmsa lova phun dawn chuan phunna tur hmunah khan thing phun hmasak ni sela. Cardamom hian ramngaw a duh tak naa, a rah hmintha thei tur chuan leh a kung hrisel nan nieng a mamawh em em thova, a hlmtu thing kha buk lutuk lova sahthlak fo tur a ni. A phun-na tur khur laih a ngai a, pen hnih bial, pen hnih-a thukin laih khuar tur a ni. Hnah tawih a ngeih em em a, leitha Japanhlo, Thingkha, Japan zawngtah hnah te, a khurah chuan dahtawih ni sela, a ngeih em em a ni. Tin, phun tur lei kha hal hauh loh tur a ni. A chhan chu hnahtawih kha a kangraal hauh tur a ni lo.

**A CHIN DAN :** A phunna hmun hlamhnhin dan a laihkhuar chu May thlaah laih zawh vek a, leitha emaw thinghnah tawih emw khan vur vek tur a ni. A khur chu lei pangngai aia pawngdeuhin vur ni sela, tichuan hnah rova khuh tur a ni. Tichuan June, July leh August thla thlengin a phun

theih a. Ruahtui tlak rei kum chuan September thla thlengin a phun theih a ni. Dan tlangpuiin a bul thlar peng an phun deuh ber thin a, a chi kuitiah pawh an uar ve tho thin.

**A RAH DAN :** Phun atanga kumthum kumah a rah thin a. A chi kuitiah atanga Paun erawhchu kum li kum ngaah a rah tan thin.

January thla atangin a sentil a rawn siam a, April leh May thla velah a par a, August tula tawp lamah a lawh theih tan nghal thin. Tichuan a par a indawt ang bawkin, a rah rei em em a, a kum leh January thla thleng a rah seng tur a awm a ni. A rah seng zawh rur l rual chuan a sentil leh nghal thin a ni. Tichuan a kung a lo lian tawih tawh a , kum riatna atanga kum sawmpanga naah phei chuan a rah hlawk vanglai a ni thin. Tin hunun ah Quintal khat a thar thei a ni.

**A KUNG ENKAWL DAN :** Ruahtui awmlah lain a bul lei chawhphut, hnah tawih duh chi, lei tha chawng thei te, lei a vur kual tur a ni. Tichuan leitha pangngai aia-pawnga, vur tur a ni. Tichuan hnah rova khuh leh tur a ni. Tin leitha dah loh kum pawhin, kum tin a bul atanga hlam hnih vel chu chawh phut ziah tur a ni a, tin, a bul peng thar apiang rih vur zel tur a ni.

### THELRET

Thelret hi khawvela thil tangkai ber te zinga mi a ni a. Kawng hrang hrang sing nga laiah hman tangkai a ni a. Thelret tel lo chuan khawvel a ding thei lo an ti hial a ni. India ramah ngawt pawh hian kawng hrang singthum leh sawmnga laiah hman tangkai a ni. Motor keah te leh Thelret atanga thil siam kan hmuh zawng zawng te hi, hetiang thelret kung hnai atanga siam chhuah vek an ni.

Mizorama kan thelret kung ang hi a ni lova, hnah sin seng sawng thang duh tak a ni.

**CHINNA 'TUR HMUN BUATSAIH DAN :** Dan narannn hetiang thelret hian ram lum a duh a, khawchin teñna Celcius an tih 21 atanga 35 ah an tha thei a, Aizawl velah pawh hian an tha duh em em a ni. Ruah kumtluana sur rual tawh a mamawh em em bawh. Chuvangin nikang lamah chin ngei chi ni. A lei duh zawng chu lei thur deuh a duh a. Tin, thhpui natna hmunah phun loh tur a ni. Hmun awihtlan, tui tlin theih lohna a ni tur a ni a, hmun awih tak takah pawh a tha thei tho a ni.

Phun hma thlakhat velah a khur pen thum bial, tawng thum vola thuka laih hmasak a, leitha vur tur a ni a. Phun atanga kumthum chhung hian duat an ngai bik a, leitha pek tawh loh vawnfai a mamawh em em a. India ramah hian kum sarh chhungin a puidling a, kum riatnaah an hnai tan thin. A dan tlangpuin kum 25 chhung a hnai theih thin a. Tin hmunah Quintal sawmpahnih atanga sawmpanga a thar thei a, a hralhna rate chu Kg 1. cheng 30 vel a ni. Tin, khung India chhim lam Kerala, Karnataka-ah te chuan, Motor ke siamtu ten an ching a, hralh chhuak lovin, Motor ke siamna khawl thelret huanah an bun nghal a, an thelret hnai chhuah apiang kha an hmang nghal mai thin. Manipurah pawh hetiang huana factory bun nghal an awm ve nual tawh a ni. Kan Zoramah pawh hian tih ve nachang hria ila chuan, sumhnar tha tak a tling ngei ang.

## COFFEE

Kan ramah hian Coffee a thaduh em em a, mahse chingtute kan tam lo hle a. Khawvelah hian Coffee thatna an hmu chhuak tam tawh tawh a, Coffee inmi an tam tulh tulh bawh a. Sapramahthe khu chuan siamsa a dipin an lei meuh lova, a humin an lei a, mahni duhtawka utin an kang ro a, Coffee an in dawnah an hersawm chawp a,

tichuan a tharlam (instant) takin an in thin a ni. Tar chaklo te tan tha(energy) a pe thar theiin an hria a, tin, mi rilru chak lote pawh rilru chakna a pe thei a, College leh sipai zirlai ten exam laiin Coffee hersawm ngat an in thin a. Tin, indonaah te Coffee rah tihro thar, sipai ten paiin an sehsawm a, a tui an lemin an chak bik an ti. Kan ramah hi chuan Coffee thatna kan inzirtir tam lem loh avang hian, Coffee in ching hi kan la tam lo hle in a lang a. Kan rilrua kan ngaih-tuah ber zawka lang chu, phailama manto taka thawn chhuah ni berin a lang a. Mahse kan thlai thar reng reng hi keimahni in-a kan eichawp leh kan bazara zawrh theih nghal mai a, a hlu zawk leh lei tam a awl zawk hle a ni. Tichuan Coffee in hi uar ve tawh ila, a hersawmna khawl pawh a to lova, zali zanga man chauh a ni.

COFFEE KUITIAH DAN : A kuitiahna hi siam hmasak ber tur a ni a, pen li vela zau leh pen 24 vel a seiah buatsaih ni sela, tichuan bawnggek tin li leh chinai dutno riat, leichi (Rock phosphat) dutno hnih pawlh tur a ni. Tin, leitak chu a ban chi emaw, lei khak chi a nih chuan tiau lei (balu) pawlh tur a ni. Tin, kuitiahna siam chu zarhlim tur a ni a, seh'lam a, a chung di-a siam tur a ni. Ruah a lo sur tamin a chung zar hul loh chuan a tha thei thin lova, tin nisa in a em nasat lutukin a tha bawh lova, bang nei lova, a chung zar hul chuan a to tha duh thin a ni.

February thla atanga March thlaah a chi chu kuitiah tur a ni a. A chi phrek lam lei lamah dahin, kut zungchal cheri vel kar danah leipan takin vur tur a ni Nitin thlai lam tawhah ni a hlim tawhin tui leih ziah tur a ni. Tin, a huh reng theih nan buhpawla khuh tur a ni. Hetiang a tih hi chuan ni sawmli panga chhungin a tiak thei a ni. A tiak chu a hnah pui a chhuah hmam sarang ipa thun a, khap khat vela sei, khap



khat bial vela lianah phun sawn tur a ni. Sarang mawng chu hmun thum, hmun li velah tilpawh thliah thliah tur a ni. Tlar fel takin sarang ip chu thu miah lovin siam tur a ni.

Tichuan a hnah pui pahnih vel a lo chhuah hunah sarang ip atang chuan a phunsawna tur (seed bed) ah khan phunsawn tur a ni. A zungpui leh a zung peng chu a than theih nan a dan thei ang bera phun tur a ni. A kuitiahna hmun a kung leiseh chin kha leiseh china hman veleh mai tur a ni. A tiak chu zing takah nizat hmam emaw tlai ni hlim hnuin emaw phunsawn tur a ni. Tui ni hnih danah a huhtawh chauhin pek tur a ni. A hnawn lutuk chuan a tawih duh em em a ni.

Lei tha Urea baltin khatah dutno hnih pawlh in leih luh tur a ni. Tin, bawnggek suahdur khat, tui baltin khata chawhtui pawhin a tha duh em em a ni. Tichuan Coffee kung chu tawng khat chen vel a nihin phunna hmun turah phunsawn tur a ni. Tin, dan tlangpuiin a tiak chu, thla 16 atanga 18 a nihin June thla atanga July thla thlang phun sawn tur a ni.

PHUNSAWN LEH ENKAWL DAN : Ruahtui kumtl-uana hmuhna leh thing hnah tlakawh ngailo hmun ah Coffee chu chin tur a ni. Ram leilung chu khawchhak lam hawi a tha ber a, a dawtah chuan chhim lam hawi a tha duh a, khawthlanglam hawi chu nisain a em rei thin avangin a tha thei lo a ni. Coffee phunna atan, thing a zar hlimtu tur hnah buk lutuk lo awm thluah sela; tlar fel taka phun tur a ni. A phunna tur khur chu tawng khata thuk, tawng khat bial bawka zaua laih tur a ni. Thinghnah tawih, lei tha emaw, bawng ek lei tha emawa hnawh khah tur a ni. A phunna tur khur hi March leh April thla chhung ngeia buatsaih tur a ni. Tichuan to haw hmasain a khur laiha, leitha dahkhawm kha nan hman ngei

sela, June leh July thla velah a lo tui ang a,  
Coffee in a thatpui duh em em a ni.

**COFFEE KUNG ENKAWL ZEL DAN :** Kum hnih  
a tin thlengin sephung leh rannung dangin a ei  
chhiat loh nan damdawi thosi hlo emaw, a kung  
atanga khap khat velah kum khatah vawi hnih  
phul ziah tur a ni. Tin, a kung bul vela hum awm  
reng reng thlawh fai reng tur a ni. A kung bu'ah  
buhpawl emaw hnimhnah emaw sah thlaka dah  
tur a ni.

Tin, kum hnuh hnuah chuan bawng ek lei tha  
emaw, lei chi (Urea) emaw pek tan tur a ni. A  
phunna kung bul vel kha tui a tin loh nan tih-  
pawh san bik tur a ni. Tin, thla khat danah chinai  
lei nena inpawlh tawh, tin khat leh tin khat chawh-  
pawlh, coffee kung inkar mumal taka siamah chuan  
pek tur a ni. Ruahtui tlak laia chinai pek hi an  
ngeih duh bik a ni.

Lei tha chi thum inpawlh (NPK) pek chuan  
bawng ek lei tha pek ang thova a kung bul atanga  
tawng khat vela hlaah lei nen hneh taka chawh-  
pawlh a, hnah rova khuh tur a ni. Tin, (Urea) lei  
chi hi chu tui baltin khatah dut no hnih pawlha  
a hnahah kah tur a ni. A hnah hian awlsam tak  
leh rang takin lei chi thatna kha a hip luh thin  
avangin a tha em em a ni.

**A KUNG TIH BUK DAN :** Coffee zar tih buk leh  
tih tam hi tihmakmawh a ni a, a rah a tihlawkin  
a kung a tinaupang rei a, a lawh a tinuam bawh.  
Coffee chu thla kua leh kum khat a lo tinin a zik  
ziding kha tanchhum tur a ni a, tichuan a zar a  
lo tam ang a, a lo chawr ohhuak tharah khan zik  
tha bik leh thang duang bik a lo awm chuan  
tanchhum bawh tur a ni. Tichuan a zar chu a  
khamphoi zawngin a lo darh ang a, a kung san  
zawng chu tawng li leh tawng nga vel chauh a  
lo ni ang a. Tin, a zar tur chawr chhuak kha a

lupuk chuan paih then tur a ni. Kum li dan-  
 a zar sawng kha April thlaah hlawi ziah tur a  
 Tichuan a kung thar a rawn chhuak leh a, a  
 a kung nula chuan a rawn chhuah leh mai

**RAH SENG DAN :** A rah a hminsen yeloh lawh  
 a ni a, thataka phoro tur a ni a. A rah chu  
 thin a, a chhungmu a rik rak rak chuan  
 rochiang tihna a ni. Tichuan hralh chhuah  
 emaw, hersawn theih emaw a ni ta a ni.

### THINGMARCHA

Thingmarcha hi phun nun awlsam leh enkawl  
 nuam, manto si a ni a. A chin dan leh enkawl  
 dan chu panhnah ang chiah a ni a. A kung pawh  
 hmu thang lo tan chuan, panhnah emaw tih mai  
 tur a ni a. Mizoramah hian hmuhtinah a thaduh  
 a, khawlum leh vawt tehna Celcius an tih 10  
 atanga 40 thlengin a tha thei a. 10 Celcius chu  
 Culcutta leh Delhi khawlum vanglai ang tluk vel  
 a ni ang a, 40 Celcius chu kan Mizoram thlasik  
 vanglai January thlavel aimah a vawt a ni. Chumi  
 awmzia chu kan Mizoram boruak hi a ngeih tawh  
 chauh tih na a ni.

**A PHUN DAN :** Thingmarcha hi a a chi lak ai  
 chuan, a kung tha lai tanchhum atanga phun an uar  
 zawk em em a. Thingbulah thingkung a zam turin  
 an phun thin a. Kuhva kung, Theihai, Lamkuang  
 Muk, Hnahkiahah te pawh an zam tir thin a. Tin,  
 a chi tur chu a peng tha, zam sei tawh kha pawt-  
 thlain leibulah an kuai a, lei si lovin hmawhlin an  
 kam kang a, tichuan changhndh kar danah tan-  
 chhumin February emaw March thlaah emaw, sa-  
 rangip khap khat bial, khap khata seiah tanchhum  
 sa chu an phun a, tui a hnwng tawh a leih in,  
 zung tha takin a lo kai ang a, June emaw July  
 thlaah a phunna turah, thing bulah chuan sarang  
 ip mawng chu tih kuak vekin, sarang ip chawp

Chuan an phnn vek mai thin a ni. Phunna tur hmun chu tui thin theihna hmun a ni tur a ni lova, mahse a hnawng reng tur a ni. Tin, phunsawn hma ni li emaw ni nga emaw, a nanna leh ran nung laka inven nan Me'hyl Bromide-a kah tur a ni a, damdawi hi a awm loh chuan thosihlo pawh a tha em em tho va, baltini khatah no beng-nei hnih pawlha kah tur a ni.

**LEI THA PEK DAN :** A kung bul atanga khap khat velah kum tin bawng ek lei tha emaw, vaw ek emaw, thinghnah tawih tin khat vel pek ziah ni se la, lei tha pek hun hi to ruah hmase ur zawh velah lei a la hnawn lai, April thla velah pek tur a ni.

**A RAH DAN :** Thinghmarcha hi phun atang kum thum kum li velah a rah tan thin a, June thla atangin a par a, February atanga November thla thleng a rah hmin lawh tur a awm thin a ni. Phai ramah erawh chuan a par tlai deuh thin a, July thla atangin a par a, March, April thla thlengin a rah an seng thin a ni.

A rah bawr chu a lo hmin chuan serthlum rawng angin a lo eng a, lawh a hun tihna a lo ni a, tichuan a rah bawr ami chu tuai thlak vekin ni saah ni 10 vel pho tur a ni. A rah mum te te chu a lo dum ang a, a kawr a lo chuar ang a, tichuan hralh chhuah theih a lo ni mai.

**CHAWEMEH ATANA SIAM DAN :** A rah pho ro kha saiip fai takeh thunin tui-khawh-thla hnuaiah ni sarh chhung dah tur a ni a, tichuan a kawr dum chu kut n a nusi thlak zung zung theih a, tichuan a chhuncmu sil fain ni saah pho ro tur a ni. Tichuan coffee her sawmna khawl (Coffee Grinder)-in emaw thlai her sawmna khawlin her sawm ila, a dip chu chawhmeh tihtui nan a tha.

#### **LAWNGPAR**

Lawngpar hi India ramah hian eikhawp a

thar chhuah loh avangin a to em em a, ram-  
dang a mi lakluh a ngai hial a ni.

**A RAM LEILUNG LEH BORUAK DUHZAWNG**  
Boruak lum hnawng a mamawh em em a, tui-  
kam a chin chi chauha ngaih a ni thin a. Mahse  
research beihna a an hmuhchhuahah chuan,  
tuipui atanga feet 2700 atanga 3000 thlengin a tha  
thei tih an hmuhchhuah mai bakah, tlangi  
tui tlin theih lohna leh ruahtui tlak thatna ram  
vawt lutuk lovah chuan a tha duh em em a ni.  
Tichuan Mizoramah chuan, Sairang, Kolasib  
thlang lamah chuan a tha thei vek ang.

**A PHUN DAN :** Lawngpar hi a chi atanga chin  
darh a ni ber a, a chi hi June atanga October  
thlaah a lawh theih a, kui tiah vat loh chuan a chi  
kha kar khat chhung chauh a nung a, kar khat  
hnuah chuan a tiak thei thin lo a ni. A chi bawr  
chu balu-in emaw, vutin emaw chawhpawlh vak  
tur a ni a, tuiah darkar 24 chiah leh tur a ni. Ti-  
chuan a kuitiah lehn tur hmun, tawng thuma zau,  
tawng 12-a sei lei tha dah darhah khan dah darh  
tur a ni a, lei pan taka khuh tur a ni. Ni 45  
chhungin a tiak thin a, kui tiahna-a dah chhung  
khan zing tin leh tlai tin tui leih ziah tur a ni.  
Lawngpar tiak hi a thangmawh em em a, thla ruk  
hnu-ah lei tha, thinghnah tawih leh lei tak pawlhin  
sarang ip, khap khat bial, khap khata seiah dah  
khahin a tiak chu dah tur a ni. Dai-hlimah dah  
reng tur a ni a, kum khat atanga kum hnihnaah  
a than duh dan azirin phun sawn tur a ni. Sarang  
mawng tih-pawhin a sarang chawpa phun tur a ni.

A phunna tur khur kha hlam biala zau, kawng  
chen vela thuka laih tur a ni. Tichuan lei tha ek  
dur leh hlum lei khak chi chawhpawlh a, hnawh  
khah tur a ni a, June atanga July thla thlengin  
khaw chhiat ni (ruah sur ni)-a phun sawn tur a ni.

**LAWNGPAR THAR DAN :** Lawngpar hi phun-  
sawn atanga kum sarih emaw kum riat kumin

emaw a lo par tan a, phairamah chuan October thia leh September-ah a par thin a. Tlangramah erawh chuan December atangin February thlang a par thin. A kuhmum a insiam tantirh atanga thla li emaw thla ngaah emaw a lawh a hun thin a. A par tantirh chuan a hring a, tichuan a sendang rawng a lo nih veleh, a lawh a hun tihna a ni. Tichuan a par chu kuaithiak mai mai lovin fimkhur taka lawh tur a ni a, tin, a par lawh zawngin a tangte pawh kuaikur mai mai lova, fimkhur taka leihlawn dawha lawh tur a ni. A par bawr chu dim tea thlah tur a ni a, a mal te tea tuai thlak a, a hnun chu pailin ni saah ro taka pho tur a ni. A ro tha ngei ngei tur a ni a, a ro tha leh pian tha chu a ukduk takin a in let thin a, a dum hle chuan a ro tha tawh lo tihna a ni duh.

**A THAR THEIH ZAT :** Dan tlangpuiin kung khatah, kum riata upa kungah chuan Kg. 4 atanga Kg. 6 a thar thei a, kum sawmpanga atanga 25 inkar hi a thar chhuah vanglai a ni thin. Kung khatah Kg. 8 aia tam pawh a thar thei thin. Lawng-par 8000 atanga 10,000 hi Kg. khat a ni deuh ber a, tichuan tin hmuna a tlangpuiin Quintal thum vel a thar thei a ni.

## COCOA

Cocoa hi Mizoramah hian kan la chin ve ngai loh avangin, a hming pawh kan la nei hran lo niawm tak a ni. Khawvela thingrah tangkai ber leh lar ber a ni hial ang. Sumchang thlai zingah hian a tangkai ber leh khawvela min an ei hnem ber a ni hial awm e.

Chawklet chithlum siam nan te, Cocoa tui leh Pepsi (theitui) siam nan te, Cocoa rah hi an hmang a. Sap ho phei khu chu Chawklet chithlum naupan lai atanga chawhmea ring thin an nih avangin. Cocoa chawm len mihring khawvelah an tam hle awm e.

**COCOA PHUNNA HMUN** : Khawlum leh thlang  
lak tamna hmunah a tha duh hle a. Khawlum vak  
lohna hmunah a puitling thei a. Khawlum leh  
vawt tehna a tlem berah 15 Celcius atanga 40  
Celcius -ah te an tha thei a ni. Kan Mizoram hi  
a lum leh vawh zawngah chuan a thatduhna  
hmun tak a ni ang. Tin, tlangsan zawngah chuan  
feet 2000 vela sangah a tha duh em em a ni.

Mizoramsa hetiang ang deuh tualto kan neih  
chu Khaum kan tih hian a ang douh ber a, a rah  
leh a mu leh a awmdan, a rah khak dan leh a  
kawr sak dan te pawh a inang awm hle a, mahse  
Cocoa hi chu hruizam chi a ni ve lova, kung nei  
chi a ni thung.

Tichuen kan ramah hi chuan Kolasib atanga  
thlang lam pangah te khuan a that duh a rinawm  
hle a, tin, balu lei, leithaw deuh chi a ngeih ber  
a, mahse enkawl nuam tak leh phun nun awlsam  
thlai nung duh tak a ni a. Tin, leikhal hmunah  
te pawh a puitling thei tho a ni.

**A CHIN DAN** : Cocoa chi chu lawh veleh a kui  
tiahna tur hmunah dah vat tur a ni a, a chi hi  
lawngpar chi ang bawkin karkhat chauh a nung  
thei a, chumi chhung chuan a kuitlahna hmun a  
dah vat tur a ni.

Kuitiahna hmun a dah hmain, a chi chu  
lungthilin emaw meichemna vapin emaw a kawr  
kha nasa tak a nawh tur a ni. Kuitiahna khum  
(beds) aini, sarangip khapkhat a zau, khabkhat a  
seiah balu leh thinghnaah tawih emaw ekdur emaw  
pawlin sarangip khatah dahin, a chi chu a hnun  
lam vanlam hawi zawngin dah tur a ni. Kuitiah  
atanga thlathum thla li velah sarang mawng chr  
tih pawh a, sarang chawp a phun mai tur a ni.  
A phun hun chu May leh June thlaah a ni.

**A KUNG ENKAWL DAN :** Cocoa hi Coffee ang thova zarhlintu mamawh a ni a. Kuhva kung hnuaiiah te Coconut kung hnuaiiah te an phun thin a. Tin, hetiang kung awmchuan chuan thing an phun chawh a. Tin, ramngaw awmsaah chuan rgaw hnuai thianfaiin thing lian te chu a zarhlintu a tan an zuah a, tichuan an phun thin.

Cocoa kuitiah chu penkua emaw pensawm kardanah phun tur a ni a. A phunna tur chu laih khuar hmasak a, ban chen vela bialin, banchen vel bawh a thuka laih a, leitha hnahtawih emaw, ekdur emaw tin khat pawh a, vur khah tur a ni.

Tichuan Cocoa chu a lo thanglian a, awmchen vel a sang a lo nihin a kung chu a lo peng a, zar a rawn siam a, tichuan zar pahnih pathum vel a rawn siam hnuah chuan, mihring banphak aia sang zuah loh tur a ni. Chemhriam taka a zik chu sahchhum zel tur a ni. Tin, a kakpui hnuaiiah chuan a peng tur chawr a lo awmin paih nghal zel bawh tur a ni.

**A RAH DAN LEH SENG DAN :** Phunsawn atanga kumhniha a rah thin a. Lamkhuang ang hian a kung mar tha laiah a arawn par chhuak a, a kung atanga tawng thum vela sangah a rah indawt chho thluah thin. May thla atang a lo par tan a. Tichuan October thla atanga January thla thlengin a seng a hun thin.

A rah hmin hi a rual vek lova, a rah hnuai ber atangin a hmin hmasa a, chumi bawr chu lawh hmasak a, karkhat hnuah a bawr chung ho chu lawh tur a ni a. Tichuan karkhat dan zelah lawh leh tur a ni.

Cocoa rah hi dan naranin kutphah tiat vel a ni thin a, a kawr sak takin a tuam a, a rah chhungah chuan a mu a hrin lain kutzungtang tiat vel 30 atanga 40 a awm thin. Heng a mu hrang hrang leh kawrsak inkarah hian a tuamtu hamda



a awm leh a, He hamda hi a kha ein em a, le  
thilkha hi tihreh nan an ur (Fermented) thin.  
A ur dan chu a tawp lamah kan sawi dawn nia.

A rah lawh huan a hnun tmbal tur a ni lova  
a rah leh a hnun inkarah chemte hriam taka,  
dim taka sahthlak emaw, sakawrbakcheh hriam  
taka cheh thlak tur a ni. Tichuan a kawrchhah  
chu ni saih a ral hma ngei a kheh tur a ni a,  
nisarih ral hnua kheh chuan a chhungmu (beans)  
te chu a chhe vek thin.

A kawrchhah sak chu chemte a tanchhum tur  
a ni lova, Chemte hriam khan a mu (beans) te kha  
a hawlh keh palh chuan a tuamtu kha, a chhungah  
a luta a chhe vek thin a ni. Tichuan lungchang  
tak chungah Cocoa rah chu dahin lung chang rit  
takin emaw Tuboh lianin emaw a laitaka bung  
hmawk turin chhut tur a ni. Tichuan a chungmu  
te chu tihkhem lovin him taka lak chhuah tur a ni.  
A UR DAN LEH TIHRO DAN : Kan sawi tawh  
angin hamda kha tihreh nan leh, rei tak tha tura  
dah theih nan, Cocoa chu a kung atanga lawh  
veleh a kawr kheh a, ur (Ferment) vat tur a ni a.

Killi neiin parsal, thingin tangphel vela sei,  
ban chen vela lianin tawnqli vela sanga siam tur  
a ni a, tichuan a mawng khap khat danah tihpawp  
thliah thliah tur a ni a, tichuan Cocoa mu chu  
parsal chhungah chuan ni hnih chhung dah a,  
changel hnaha khuh tur a ni. Tichuan chutiang  
parsal cha pathum siam tur a ni a, parsal hmasa  
berah nihnih dah tur a ni a, tichuan Cocoa rah  
chu a lo sa em em anga, nithumah a lo dai deuh  
anga a, parsal pahnihah chuan dahsawn tur a ni  
a, chutah chuan ni hnih bawk dah leh lur a ni a,  
a ni thumnaah parsal pathumnaah chuan sawn  
leh tur a ni a, tichuan ni hnih bawk dah leh tur  
a ni. Tichuan a ni thumnaah bawk lakchuah a,  
nisa a pho ro tawh tur a ni. Tichuan ni 5 atanga  
ni 7 thleng nisaah ro taka phoin, hralh chhuah

theih emaw, thawncchhuah theih a lo ni ta a ni.  
Tichuan hmun ro leh hulah ip fai taka thuna  
dah. that tur a ni.

Cocoa hralhna hi a awlsam em em a, Kg. 1  
Rs. 100 aini a rate a hniam ngai Iova. Tin, tin  
hmunah Quintal 8 a that theih a. Dantlang puiin  
phun atanga kum hnihah a rah tan a, kum 25  
chhung tar lovin tha takin a rah thei.

Kan sawi tawh angin he thlai hi a hlut em  
avangin U.N.O. a peng khat Food and Agriculture  
Organisation-in Cocoa tihpun hna hi an thawk  
nasa em em a, khawvel hmun tinah tan an-la a.  
Tin, World Bank pawhin Cocoa chingtu te mimal  
hnenah emaw Co-operative kaltlangin emaw tan  
pui na an sem reng a ni. India ramah chuan heng  
a hauai a kan tarlan Company-te hian englai  
pawhin an lei duh reng :-

1. M/S Cadbury - Fry (India Ltd) Pvt.  
Ltd. Bombay.

2. M/S Sathe Biscuits and Chocolate  
Co. Ltd. Pune.

3. Dr. Writers Chocolate & Canning  
Co. Bombay.

COCOA KUNG NATNA LEH EICHHETU LAKA  
VEN DAN : 1. Rannung Sen: Rannung sen te  
reuh te te in a zikah khat lukin a bawh a,  
Tichuan a zik a ro phah a, a kung naupang  
beuh te phei chu a kung pumpui a ei ro thin.

Hetiang rannuhg hi a lo awm tan velah, a  
awmna zar kha tanchhurn a, hal emaw hmun hla  
taka paih tur a ni a. DDT emaw BHC emaw, tui  
baltin khata dut no thum pawlha kah tur a ni.

2. Pangang : A hnah eitu pangang hmul sei  
sing seng a awm bawk thin, hetiang pangang hi  
Carbaryl damdawia kah tur a ni.

3. Khumfa sia lian deuh rannung a zikno leh a  
rahno eichhetu (mealy bugs leh sap Sucking bugs)

an tih a awm bawk a, heng rannung te hian Cocoa rah tantir a ei pawp a, a chhunga tui a lo chhuak a, heng tui te hian fanghmir a ko leh a, tichuan fanghmirin a bawm chuan a kung pumpui a tichhe bawk a, a ei hlum thin. Heting rannung-in a ei tan velah, Cocoa rah chu a lo uk phoh-phoh a, tin, a zikno a ei chum bawk thin a, tichuan rang taka Rogor damdawi baltin khatah thir-fian lian 10 vel telha kah vat tur a ni. Tin Rogor a kah hnu ni 10 ah tui baltin khata BHC dut no thum pawlha kah leh tur a ni.

4. Rannung Var : Rannung tui niawm taka lang a varin a zung a rawn bawh a, a kungah a kal chho va, a hnah hnai lam atangin a ei a, a hnah a lo chuar chhabik a, a hnah a pawp bawk thin. Hetiangin a ei chuan a rah tha thei thin lova, BHC a kah leh tur a ni.

### THINGPUI

India ram hi, khawvela thingpui tualtona hmasa ber pawl niin, Assam-ah kum 1820 velah hmuh hmasak ber a ni a. Tichuan, Sap sipai Major Bruce an 1823 khan a enchhin a, thingpui tui tak a ni tih East India Company-in an hmuhchhuah hnuin 1826-ah thingpui huan chu East India Company-in an siam tan ta a ni. Tichuan India ram a, thingpui huan hmasa ber chu Assam-ah tan a lo ni ta a. Hetih lai hian China ram chauhin thingpai hi an nei a, Europe khawmualpui pumpui chu a supply thin a. Mahse China sawrkarin East India Company- ah thingpuife 1933 atanga an supply duh loh atangin Assam thingpui huan chu nar leh zuala enkawl a lo ni ta a. Tichuan Governor Ganeral Lord William Benticke chuan 1934-ah, Assam ram a thingpui huan tihlawhtling turin Committee a din ta a. chu Committee chuan thingpuife siamna khawlte bunin, nasa takin tan a la ta a. He Committee a chairman Captain

Jenkinsa chuan, Assam ram Sadiã atanga tualto leh China thingpui chu a enchhin a, thuhmun chiah niin a hre ta a. Amaherawh chu Assam chuan hnuai (Lower Assam) a tualto te erawh chu, Sadiã ram ami aiin a hnah a that zawk bakah a hlawk zawk a, tin, China thingpui chu a totha thei vak lo tih an hmuchuak leh ta a. Tichuan, Assam ram a tualto chu India ram hmun hrang hrangah an lo darh ta a ni.

Assam ram chuanchung Sadiã vel tualto, China thingpui an tih mai leh, kan Mizoram a tualto ziksen kan tih ang hi a in hmel hle a ni. Kan Zoram boruak pheĩ hi chu a tha leh zual a, thingpui khawĩlian bun nan a itawm hle a ni. Tun hma sap hun lai khan, kalkawng kan neih that loh avangin an siam lo mai ni awm tak a ni

**A BORUAK NGEIH ZAWNG :** Thingpui kung hian, ruahtui a mamawh em em a, phaizawl ai chuan tlangramah a thaduh a. Tlangram awihtaka siam dawn chuan, terrace an lai hmasa thin, a chhan chu hmun awih hian tihfai hian a chunglang lei hang kha, t i lawkin a len'bo thin avangin terrace laih hmasak a tha a ni. Tin, thingpui hian ruahtui a mamawh em em a, kumkhat a ruahtui 150 cm aia tlem lo a mamawh a, a aia tam lam a tha zawk zel a ni. Tin, boruak lum leh vawh lamah chuan, avawtberah 13 celcius vel a ni tur a ni a, tin, a lum berah chuan 30 celcius vel ai tam a ni tur a, ni lo. Tichuan kan zoram boruak leh ruahtui tla li thingpui ngeih chi tak, a fur a thalin a ni vak a ni.

**A LEILUNG NGEIH ZAWNG :** Thingpui hian lei chitin reng a ngeih na a, kumtam tak atan a rin tur leh tha tur chuan a leilung hi buatsaifi a ngai ve a. Mahse kan zoram lei hi a that em avangin khawi hmunah pawh hian a thaduh a,

dantlangpuiin chinai lei a ngeih a ni. Tin, hnan-tawih leh ekdur a ngeih em em bawk a ni.

Tichuan thingpui hnah tha tak a thar tur chuan a leilung buatsaih a ngai a.

Sawi tawh angin thingpui hian Acid leh chinai a mamawh a. A theih hram chuan thingpui huan siam hmam, mithiam te rawn hmasak a, lei hi en en hmasak nise la a tha ang.

**LEI BUATSAIH DAN :** Thingpui huan tur chu vah hmasak a, a kumkhatnaah chuan buh emaw, Zikhlum, Bekang te emaw chin hmasak a, heng chin rual hian a hlim tur thing phun ngal tur a ni a. A hlim atan hian Fartuah, Vaube te leh thing thangduh chi te, Japan zawngtah te an tha a.

Hetia ngawpui thiah tharah hian, thingpui kung hrik eichhetu, hmun hnawng hrik an tih mai, (root rot infection) te an awm duh avangin a hmun chu tihfai em em a ngai a. Tin, a chungakan sawi tak thlaite khi chin zawh veleh fai taka then leh tur a ni. Tichuan a kum leh June thlaah thingpui tiak chu phun chauh tur a ni. Tin, hetia thingpui huan turah hian lungchangte a lo awm anih chuan thenfai kher a ngai lova, lungchang hian thingpui tana tha a siam thei a ni. Japan ramah te, Kenya te, Tanzania-ah te chuan thingpui huanah hian lungchang (granite, greins) an dah chawp chawk thin bawk.

**A KUITIAH DAN :** Thingpui hi a chi atanga kuitiah ai chuan a tang tan chhuma tihnun hi an uar mah mah a.

A chi atanga kuitiah anih chuan leitha chhun-pawn, ekdur emaw hnah tawih emaw leh balu, leitak nen inzat theuhva chawhpawlhah (Nursery-Bed) a chi chu khap khat kardana dah thliah thliah a, leitha bawkin pan taka vur tur a ni.

Tichuan tlai tin tui leih ziah tur a ni a, a lo toah hnahpui pali vel a chhuah hunah dim takin a tona lei chawpin a zung ti silawng lo thei ang berin sarang ipah sawn tur a ni. Tin, he a kuitiah na hmun h a zar hlimtu a chung siam a, sethlamin, nichhuahna lam chu a sang zawnga siam tur a ni. Tin, sarangip a sawn hnuaah pawh, hulhliap hnuaiah bawk dah tho tur a ni. Tichuan kuitiah afanga thla riat atanga thla sawmah a phun sawn theih thin a ni.

Tin, sawi tawh angin a zar sahthlak atanga phun a nih chuan, leitha chhunpawh kha siam tho tur a ni a, feet khat danah a tang chu sahhai zawnga sahthlak chu nichhuahna lam hawi zawnga awndeuhva vih phun tur a ni. Tichuan hmun hnih hmun thum laiah a lo chawr anga, chung lo chawr chu pakhat chauh zuah a, a dang chu tuai bal vek tur a ni. Tichuan a hnahpui pali vel a lo chhuah sarangipa sawn leh tur a ni. Kuitiah ang bawk khan thla riat atanga thlasawm velah phunsawn leh theih a ni ang.

**A PHUN DAN :** A phunna tur hmun kha, hlamkhat danah a khur laih a, leithaa hnawhkhah tur a ni a, tlar fel takin inzawn thata phun tur a ni a. A kung leh a kung inkar lineah chuan tuihawk luankawr fel taka siam ni se la. Tuiin a chiah reng chuan a tawih chhe vek thei a, tin, natnain a lakbuak duh em em a ni. Tichuan tin hnih hmunah kung 14,000 vel a phun theih.

Tin, a zar hlimtu thing pakhat hlamnga danah phun bawk tur a ni. Tin, heng thing hi a lo puitlin a, a hnawh lutuk chuan kihthawh leh tur a ni.

**A KUNG ENKAWL DAN :** Thingpui chu phun atanga kumkhatah a zikpui ber kha tihchum tur a hi a. Tichuan a kung tawih turin, sawmpakhat danah tihchum vek tur a ni. Thingpui kung hi

feet 3 aiin a sarg tur a ni lova, tichuan a kung chu mawi takin a lo bial map ang a, a zik a hlawk bakah sih a awlsam em em a ni. Tichuan kumthumna atang chuan a zik sih theih a lo ni tawh ang.

Tin, lei thatna hmunah phei chuan, thingpui zik sih reng chung pawhin, a kungpui hi a thang duh em em a. Chuvang chuan a kung feet 3 leh a chanve vel ni tur chuan, kumhni danah a tang kha tanchhum vek a ngai thin a ni.

Tichuan, a kungpui atanga inches 9 vel zuaharual taka, chemhriam takin tanchhum tur a ni. Tin, a tang lian deuh deuhte chu thingzainahriam taka tanchhum tur a ni.

Hetianga, a zar tihbuk nan leh tihtawi nana tanchum reng rengin leitha chawhpawlh tawk pek nghal vat tur a ni. Tichuan tanchhumna, a kung silawng kha a dam hma a, tin, a kung pumpuiin leitha chu a thatpui sam bik em em a ni.

**THINGPUI ZIK SIH DAN :** Thingpui zik sih reng reng in, a hnah pahni tel chauh a sih tur a ni a. A hnah pahni hnua lama, a hnah dang no tak a awm chuan a kung tel lovin a hnah chauh sih tur a ni. A kung chang tawh sih tel chuan, thingpui hang tha a tibo va, thingpui tha (good quality) a ti chhe thei thin a ni. Tin, thingpui sih hian kut khat khat a hum lovin, sih apiang kha emah vawm luh zung zung tur a ni a. Tin, em chu nemmuk hauh lova, rang takin a dahna tur bikah dah nise a dahna hi nihlim a ni tur a ni. Cbutilova muk tak a dah chuan a mah leh a mah kha a lo inur lum a, a hnaha rimtui awm chu a chhiain a duk vek a, thingpui a tui loh phah duh bawk a ni.

Dan tlangpuiin thingpui hi a zik chawz atanga ni 6 naah an sik thin. Ni 6 a pelh tawh chuan a hnah a lo chang hman thin a, thingpui a tui loh phah vek a. Chuvangin thingpui huan neitute chuan hlawhfa, a sih hun lai hian a rualin an ruai vak vak thin.

**THINGPUIFE SIAM DAN** : Thingpuife siam dan hi chhawng thum a awm a, chungte chu :—  
**(1) A HNAH TIH UAI (WITHERING)** : Thingpui hnah finkhur taka lawh chu a tih-uaina tur bik atana insakah boruak thataka lut theih an siam a, a chhuar lian pui pui thingin an siam thluah a, a chhuar chhuat chu thirlen an phah a, chhuar chu bang nei lovin an siam a, a inchhawng chu feet hnih kar danah a ni thin a. Tichuan thingpui hnah chu, chutiang chhuarah chuan an theh darh a, darkar 16 vel an dah uai phawt a. Tichuan thingpui hnah chu a lo enghring nghial a. Her sawm a lo ni ta a ni.

Hmanlai chuan hetiang a ti-uai hmasa lovin sih zawh ve leh, tuisoah an thlak a, an la chuak leh vat thin a, Mahse hetiang a tih hian thingpui tuina a tibo nia an hriat avangin dah uai hi an ching ta a.

**HERSAWM DAN (ROLLING, SIFTING)** :

Chutia pho-uai sa chu, hersawmna khawlah an dah ta a, minute 70 atanga 120 an her a. Tichuan a dip tha an thliar hrang a, a hraw la awnte chu an her nawn leh a, a diptha chu a urna inah hmanhmawh takin an dah sawk sawk thin. **A UR DAN (fermentation)** : A ur dan hi a hnah azir leh, a ram boruak azirin a danglam a, chuvangin a darkar a bithliah ve-theih meuh loh.

Chutia thingpui hersawmsa chu cement chhuat fai takah an dah darh a, a chhah lam chu kut chang-khat velin an hai rual a, kawngkhar zawng zawng an khar phui vek a, boruak chhuahna turin ventilation kan tih ang bian bang chung lam feet 12 chu thirlen an hmang a, boruak thianghlum, a ram boruak ngeih tawk turin an kap lut a, a liang bula thirlenah chuan a hu chu a chhuak a, thingpu i rim ru huam chu a lo reh ta thin a ni.

Ur hun chhung hi Assam ramah khu chuan darkar thum a ni. Boruak vawh dan azirin an ur rei deuh mai thin a ni.



**A THRO DAN (Drying) :** Thingpui ura (fermented) chu a tihrona bik pindana thir-thleng (steel-plate) lianpui puia a chhawngin an dah leh thluah a, pawn atangin boruck lum lawk an tilut a, hma chuan an ur thin a, tunlaiah chuan awlsam takin electric-in an ur a ni. Tichuan thingpuife chu a lo dum a, hmun daiah zan khat an dah phawt a, a-tukah a hraw chi leh a sin chi an thliar leh a, parsal phui takah an bilh ta a ni. A then chu chawlhkar hnih leh chawlhkar thum bilhte an ni ber a, thingpuife chu a lo sen thei ta a ni. Tin, parsal-a an bilh hma chuan tlemin an tihlawng leh thin a ni.

### **HRALH CHHUAH TURA THLIAR HRANNA :**

**CRADING AND PACKING :** Tichuan thingpui chu a fe hraw leh sinte chu thliar hrang leh ila, tichuan hralh chhuah theih a lo ni ta a ni. Thingpuife tui leh tui lo siam dan chu thuruk a nih avangin a sawi theih loh a ni.

Thingpui hralh chhuahna tur a, fun hranna pindan chu a ro em em tur a ni a, a lum bawk tur a ni. Tin, a hnawn palh loh nan an ur ro leh te te thin a ni. Pindan boruak chu lum tak (71.1 celcius) aia hniam lovin an tilum phawt a, hralh chhuah theih turin an fun ta a ni.

### **TUNG**

Tung thing hi kung lian tak feet 50 atanga feet 75 vel-a sang a ni thei a, thing thang duh leh enkawl nuam tak a ni. A tangkaina a tam avangin Mizoramah pawh KVI-in a sawrna khawl an bun tawh bawk a, a hralhna lamah harsatna a awm lo bawk ang a, kan ramah hian a tha duh em em bawk a, thlai chin atana duhawm tak a ni ngei ang.

**A CHIN DAN :** Tung hi kuitiah aia a awmna tur hmuna a chi tuh mai hi a tha ber a, a thing hi

sawi tawh angin a thang duh em em a. A chi tuh hun hi May atanga June thla a ni a, a chi hi hriak nei a nih avangin rannungin a eichhe duh hle a, chuvangin a chinna tur léi kha chin hma kar khat-ah thosihlo-in lo theh lawk ni sela, a chi chu tin chhungah dahin thosihlo no chanve pawlha thin vak ni sela a tha bawk. Feet 15 kar danah tuh tur a ni a, a mu kawr hi a chhah avangin ni 3 vel tui chiah hmasak ni sela a to hma a ni.

**A LEILUNG LEH BORUAK DUH ZAWNG:** Tung hi khawvawt thlai a ni a, nipui lai aiin thlasikah a thang duh a. Kan ram boruak hi a ngeih tawk vel vek a ni. Ruahtui tlak dan pawh kan ram ruahtui hi Tung chin nan a iarem em em a. A leilung duh zawng chu awih pang lung phihrit hmunah leh lei sen (acid soil)-ah a tha duh a, Mizoram lei hi a that duhna tak a ni. Phaizawl lei alahte a tha thei lo thung.

**A KUNG ENKAWL ZUI DAN :** A tiak tantir chu mawh tawih leh ek dura chawm ni sela, a leikang hma a, tichuan kum hnih a lo tlinin a zikpui ber chu fur ruahtui tlak hma hreta tanchhum ni sela, tichuan zar tamtak a rawn chhuahin a rah hlawk duh em em a ni. A kum thurnnaah a zar karpui pahnih tanchhum leh tur a ni. Tichuan a lo tawibuk lurh ang a, a kum linaah a rah tan a, kum 7-na atang pheichuan a rah a hlawk tham em em a ni.

Tin, a rah hma hian a bul vel sam fai ngun a ngai a, a bul velah thing lian tham to tir hauh loh tur a ni.

**A RAH LAWH DAN :** A rah kawr chhah tak in a tuam avang leh bawr khatah tamtak tak a rah avangin, a rah hi a lawh a lawh aiin a tla an chhar mai a, tin, a tla duh em em bawk a ni. Israel ramah chuan a rah hmin tan tirhin an sawi tla nghal vek thin a. Tichuan a kum leh rah a hlawk phah thin a ni an ti.

**TUNG THING CHI HRANG TE :** Tung hi chihnih a awm a, a rah mam chi (fardii) leh a chuar chi (Montana) a ni. A rah mam chi hi tlangram lei-chhia a ngam zawk vang leh lung phihrit hmun hi a thatdutina zawk a ni a. Tin, ram vawtah a thaduh zawk a, leithur a ngam bawk a ni. Tin, a rah kir chi (Montana) pawh hian kan ram lei-hi a ngeih em em tho a ni.

Tung rah hi artui tiata mum a ni a, rah pakhtatah a mu pali leh pathum a awm ber a, A rahmu atang cuuan a hriak an ei chhuak thin a ni.

A rah mam chi (fardii) hian hriak a pai hnem zawk bawk a. a hlu zawk a, chin atan a tha zawk a ni.

**TUNG HRIAK TANGKAINA TE :** Tung hriak hi a larna bik em em mai chu hriak dang zawng zawng aun a tho va, a chhe ve mai mai thei lova chuvang chuan thlawhtheihna khawl hnawih mawm nan te leh khawltha leh ulukah chuan mithiam ten, hriak dang hmang lovin Tung hriak ngei hman an duh flat thin a ni. A hmanna tlangpui deuh deuh te :

1. Lawng lian leh lawngleng te, tui lut thei lova char nan.
  2. Thing bungrua, thutthleng leh Almairah te hnawih mawina (Varnish) siam nan.
  3. Banga rawng hnawih chi hrang hrang titlo tur a tan.
  4. Thir bungbel (Stainless Steel) hnawih tletna atan
  5. Bungbela pangpar rawng hnawih (enamel) siam nan.
  6. Chhuat phah (Linobum Carpet) siam nan.
  7. Electric hrui (Insulator) hnawih atan.
  8. Thlawhtheihna khawl hnawih mawrna atan.
  9. Motor Brake siam nan.
  10. A hriak kangdum atanga pentui siam nan.
- India ramah ringawt pawh hian, Tung hmang duhtu an tam em em a, duh ang kan la thar

chhuah theih loh avangin ramdanga mi an la lut thin a ni.

**TUNG HRIAK THAR THEIH ZAT :** A kung hi kum 10 atanga kum 25 thlongin a rah vanglai a ni thin a. Kung khatah Kg. 30 atanga 40. a rah thei a. A rah quintal khatah a hriak litre 40 atanga 50 a thar thei a ni.

Tin, a hriak sawrna fu hi Custic Soda nen a pawlhin puan sukna sahrawnah an siam leh bawk thin.

### QUININE THING (Cinchona)

Cinchona thing hi Java ram a tualto thin a a ni. Ngawdur hnuaiah a awm thin a. Quinine damdawi siam nan an hmang tangkai a. Tunlai pheih hi chuan Quinine chauh nilo. Kawthato damdawi leh, damdawi dang dang siam nan an hmang nasa em em a ni. Indopui pahnihna hnu lam atang khan, he thing pawimawh zia hi hriat chhuah belh zel a ni a, an phun darh nasa em em a ni. A hnah awmdan chu hnakhiah hnah nen a inang hle a ni.

**A CHI LAK DAN :** Thing dang ang bawkin kawlawm leh a kung zawm an uar ve tho nain, a chi kuitiah hi a hlawn tling ber ni a hriat a ni a. Kumthum a upa a nih atangin a par tan a, kumlina atang a, a rah chu kuitiah atan a tha a. A rah chu a sawl, thingsemim angin tusmtu a nei a. A kuitiahna tur bik lei chhupawn a, dah tur a ni a. A chi dah atanga chawlhkar thumna velah a to thin a. Thla li emaw thla ngaa upa a nih hunah sarang ipah dah tur a ni a, a chung zarna sethlam a siam, bang nei lova khuh tur a ni. Tichuan a kung len azirin kumkhatah emaw kumhniha emaw phun sawn tawh tur a ni.

**A KUNG ENKAWL ZUI DAN :** Thing dang ang bawkin a kung hi tihtawi tur a ni a. Tin, damdawi Quinine lakna ber chu a tang pil atanga lak a

nih avangin, zar tam tak a neih a ngai a. A kumthumna atangin a zikpui ber chu tanchhum a, a kum lehah, a kakpui tur zar pahnih ve ve chu tanchhum leh tur a ni. Tin, a lo tawih ber laih a, a kum sawma atangin a zar tan thlain a pil chu an hik a, aa phorova an hralh thin a ni. A RAM LEILUNG LEH BORUAK DUH ZAWNG Sawitawh angin Cinchona thing hian, ngaw hnuai a duh a, hmun zawl aiin tlangram awihah a tha duh a. Ngaw hnuai thing tih takah hnahtawih leh ekdur a ngeih ber a. Kumkhat danah chutiang leitha chu an pe thin. Tuipui atanga feet 3500 a sangah pawh a tha thei a. Tin, ruahtui mamawh dan pawh, zoram ruahtui tla nen a inmil hle a ni. NATNA LAK A VEN DAN : A kung hi sawitawh angin damdawi anih nghal avangin, rannungin a eichhe ve meuh'lova, amaherawh chu a bula hnawn lutuk chuan a zung tawih tirtu (fungie) a awmduh hle a, hemi ven nan hian, thosi hlo 'lem tlem phul den den tur a ni a. Tin, a bul vel theng-thaw tak a tihfai reng tur a ni.

### KUHVA KUNG

Mizo zingah kuhvarah hre lo kan awm lova, a kung hi Coconut (Palm) chikhat a ni a. A kung san lam hi feet 63 vela sang niin a len lam chu malpui tiat vel a ni thin, a. A parah hian apa chi leh anu chi inrai nghal thei a awm a, chuvang chuan a tangrah leh, a rah puitlinglo a awm ve ngai meuh lo a ni.

A KUITIAH DAN : A chi atanga kuitiah a ni a. A kuitiahna tur bik lei chhunpawn a, kuitiah a ni a. Kuhva hi kumkhatah vawihnih a rah thin a, a rah hmasa zawk June thla vel a hmin chu an kui thin a, a tiak chu hnah pali vel a chhuahah an phunsawn thei thin a ni.

A BORUAK NGEIH ZAWNG : Khawlum leh hmun hniamah a rah tha a, tuipuikam atanga feet 1200

thlengin a rah tha thei a, Ruahtui a mamawh tam hle a ni.

**A LEILUNG DUH ZAWNG :** Lei al leh Balu lei te a ngeih a, tin leikhak deuhah pawh a tha thei em em tho a ni.

**LEITHA PEK DAN :** Boruak lumah chuan a tha duh em em a, kum ngca upa a nihin a rah tan a. A rah hlawk nan, phun atnga kum hruhaah leitha NPK kumtin, nobengnoi li (4) pek ziahn a rah tha duh em em a ni.

**A NATNA LAKA VEN DAN :** A kung leh a zikno eichhetu (Mites) in a eichhe thei a, hemi ven nan hian kumkhatah fur ruah tlak hmain Sulphur damdawia kah ziah tur a ni a. Tin, a rahna atanga tuithlum hip chhuaktu rannung a awm duh hle bawh a. Bardeux Mixture-a, a par tanturh laia kah tur a ni bawh.

### PANRUANG

Panruang hi kuhva nena eipawh chi a ni a, hrang sang tam tak a awm a, mahse chhrang te leilung leh boruak ngeih zawng chu a inang tlang deuh vek avangin sawi lang kher lo mai ila Tin, Mizoram boruak hi a ngeih tawh em em a ni.

**A CHI LAK DAN :** A chi lak dan ber chu, a kung la chang lutuk lo kha, a chang pahnih tanchhum tela (Feet khat vela sei) sarangip a leitha thunkahahah vihphun tur a ni a, daihlim a mamawh a, nieng a mamawh tho bawh a ni. Tichuan sarangip a vihphun ho chu fel taka dah a, a chung zarna sethlan bang nei lova hlan khat vela sanga siam tur a ni a. Tichuan a chang chu a lo chawr ang a, zung a kaih nghal thin a. Sarang chawpin an phun nghal mai thin a ni.

**A PHUN DAN .** India ramah hi chuan thingbul a thingrem siam a, phun a, thingkunga zamtir hi a lar ber a, hetiang a thinga zam tir hian thingkung lian leh sangah te hian a hnah lawhkim a harsat

thin avangin, Malaysia, Indonesia ram velah khi chuan, thingkungah an zam tir ve ngai lova. A thlur zawngin lei an hai vum a, a karah chuan tuihawk luankawr an siam a. Thingzai chartin emaw thingtuai sakuh ulut angin penhni danah thing an phun a, a thlur lehlam am kha inzawnin feet 10 vela sangin a chhupah an tawnkawp ta a. Tichuan thing phunna bul zeleh panruang kung chu an phun a, thingah chuan an zamkual tir zel a, lei atanga duhtawh lawh Phakah an siam a, an thar tam thei em em a ni.

LEITHA PEK DAN : Tui fur tlak kumkhatah vawikhat, hnah tawh emaw ekdur emaw, tinkhat-ah chum no li (4) Pawh a, a bul atanga khap khata blaah dah kual thin tur a ni.

NATNA LAKA VEN DAN : Panruang hi rawngin. a eichhe ve thei meuh lova, amaherawhchu, hmun hnawng leh tui a tlin theihnaah natna ch kha (Fungus Phythophthora Palmivora) a vei thin a Chuvangin tuihawk luankawr tha tak a siama tur ni a. Tin, a bul vel thengthaw taka, tihfai reng tur a ni a. Tin, he natna in a bawh loh nan Bardeux Mixture- in kumkhatah vawi khat kah tur a ni.

## F U

Fu hi khawvela thlai pawimawh ber te zinga mi a ni a. A tel lo va awm thei lo hmu tam tak khawvelah kan awm tak avangin thlai pawimawh tak a ni

Khawvela Fu an hmuhchhuah hmasak ber chu Officinarum an ti a, a kawr senduk lianber feh atana tui ngah tak kurtai atan an hmang a, kurtai siam hi kum sang tam tak hmalan atang khan an lo uar tawh a.

Tunlaiah erawh chuan Fu tui thl tlima clini siam nan a hman lar leh darh zau ber a lo ni ta a ni. He mi Fu chi hi mithiam te'n a ti danglamin Nobles Cane an tih, a kawr enghring an hmu-

chhuak leh a, Tichuan a chi ti dang lamian, mithiam ten Fu chi hrang, hrang sang tam tak an hmu-chhuak leh ta a ni. Fu a tual to na leh an hmuhchhuah na hmasa ber Asia khawchhuak lamah a ni a, Burma, Malaysia-ah te an ni a. Tin, a hmasa kan sawi a kawr senduk chi kha Portuges ho nen a, A.D. 1300 vela Burma leh Malaysia ten in sumdawn tawn nan an lo hmang tawh thin a.

Tin, a kawr eng Nobles Cane ang hi chu rannung eichhetuin a bawh duh lutuk avang leh, a hnah lianpui pui chuan a kunga Fu tui awm a ti hlawk lo tih leh leitha pek a ei tha ve thei lo tih an hmuchhuak leh ta a. Tichuan a kawr eng leh a sen in kar a mi a chi thar Hybrid an tih ang chu Fiji thliarkarah chin chhin phawt a ni a, a hlawk em em tih hmuhchhuah a ni in, khawvelah a darh ta a ni.

A CHI LAK DAN : Fu chi hi thlai zawng zawng zinga tih punawl ber te zing a mi a ni hial awm e. A kunga a la awm laiin a chang a lo chawr a,, chuta mi chu chang hnih dana tan chhum a, a khamphei zawnga lei pan taka vur mai tur a ni a. Tin, Fu mit chawr tur chu van lam hawi zawnga dah tur a ni. Fu hi a thlum avangin a chi tura, leia phum chu rannungin a ei chhe duh em em mai a ni, Tichuan phun hmasa, damdawi Mercurial Fungicidea, lei phunna tur chu, phun hma kar-khatah kah hmasak tur a ni. Tin, Fu her tura sahkhawmlaiin, a zik chu a chi atan an dah tha bawh thin Tin, ram tam takah chuan, a chi hmun tur a hran liau liauin an ching hrang thin. uluk bikin damdawiin an enkawl bawh thin. Heta a chi hmun atana siam bik a mi hi thlaruka upa a nih in an tanchhum a, an ling thin. Thlaruk aia upa chi chu, a tui a hlawk thei lo niin mithiam ten an hria a ni. Fu chn a chi a zirin a hlawk a hlawk lo thei em em a. Tichuan a chi hmun chu ngun taka leitha pek tur a ni a, leitha N.P.K.Mg.



tin 2 leh a chanve hmunah Quintal 6 dah tur a ni  
APHUN DAN : A phun dan tha ber chu, tlang-  
pawng siam a; a pawng laiah chuan kutphah chen  
vel a, thuk a Fu ni pakhat emaw paudin en. a  
awmna chu a khamphai zawngin a mit van lam  
hawi zawng a dah a, vur tur a ni. Tin, feet hrh  
emaw feet khai leh a chanve emaw kar danah  
phun nisela. Tin, Fu chi kha, damdawi, Mercuric  
Fungicide a bual hmasak ni sela. Tin, a leiah khan  
chinai tui a leih hmasak ni bawk sela.

A phun hun hi toruah tlak hmasak ber hnu,  
April May thla vel a ni a. Fur tui tlak hnu a phun  
chuan, a zik lo chawr chhuak tur kha a tawih  
duh bik a. Tin, tur tlin theih loh nan Fu hmun  
chu tuihawk luan kawr fol taka siam ni sela.

LEITHA PEK DAN : Dantlangpuiin a kumkhatnaah  
chuan leitha pangngai leh lei khakah, Fu chu leitha  
tel lo vin a tha duh em em tho va.

A kumhniha atanga Fu chi hrang hrang  
(Varieties) te leitha pek dan chu hatiang hi nise,  
an nge.h vek a ni.

(1) A lei chu leime leh leisen a nih chuan a tehna  
a teh in, ph 5.5. ai a hnuam a nih chuan teh lem  
lo pawhin lei chu a sen a nih a, a sak hle chuan  
tinkhat hmunah, chinai tin 50 lei chehphut hnan  
tur a ni a. Tichuan lei chehphut chungah chuan  
Superphosphate leh Potassium Chloride, Kg 67 ve  
ve chawhpawlh a, lei chehphutah chuan tinkhat  
hmunah phul leh tur a ni. Hetianga leitha sawisak  
hi Fu phun hma chawlhkar hnihah tihzawh vek  
tur a ni.

(2) Fu a to hnu tawng hnih vel a sang a lo nih  
hnuah Nitrogen leh Ammonium Sulphate Kg. 35  
ve ve chawhpawlh a, phul leh tur a ni a. Tin,  
chumi phul atanga thlathum hnuah hetiang chiah  
a chawhpawlh in, phul leh tur a ni.

Tichuan a kumthumnaah chuan a lei awm-  
dan azir a, leitha pek chu tihlem emaw tiham  
emaw tur a ni.

Tin, lētha kan sawi tak aiah Vawkek emaw Bawngkek emaw, hnahtawih pawh hneh tak a cheh phut hnanin a tha em em tho a ni.

FU SAH DAN : Fu hi phun atanga thla sawmah hertlak in a puitliang a. Fu sah bun chu fur tuitlak zawhah, nisa in ni 20 atanga ni 30 tal em hman sela, Futui a hlawk duh a tin, ruahtui tlak tamna ramah pawh, ruahtsur loh laia sah tun hram hram tur a ni.

NATNA LAKA VEN DAN : Fu hi natna chi tam takin a bawh duh em em a. Mizo chuan kan sawi hrang lem lo va. Futam te kan ti a, kumthu bawh te kan ti bawh thin.

1. A hnah alo uk thuk a, a sen thluah thluah a. a kung a ro thin a, a natna hi a hlauawm hle a, a pungchak em em a, a kung a thi phuk thin. Hetiang natna awmna chhan hi chu a chi-a finkhur loh vang a ni ber a. A hmalama sawi tawh anga a, tihthlap chuan a vei ngai lo.

2. Tin, Fu a kunga natna lang lem lo, a fu a lo phel phawk a, a sak bik a, Fu chu a sen in a kap a. Fu tui a ti hul a, a tih hlawk loh phah thin. Hei pawh hi a chi atanga awm bawk a ni a. Tin, Fu bul a hnawn lutuk in a awm thei bawk. Chuvangin a chi chu sawi tawh anga damdaw Mercurial Fungical-a a chuln hmaa bual ngei ngei tur a ni.

3. Tin, a hrik zinga hlauhawm ber chu, a zung eichhetu hrik a ni a. A kung la puitlin hmain a eichhe vek thin a. He natna hi a lo awm tantirh hriatna chu a zik a tawih hmasa a, awlsam takin a zik a pawhchhuah theih a, a thi mai thin a ni. Tichuan a zik a lo parh thei lova, a hlawm reng chuan a zung eichhetu a awm a ni tih hriat nghal mai theih a. Thosihlo nobengnei hniah tui tinkhat pawh a, a kung atanga khap khata hlaah leih kual vek tur a ni a. Tichuan a dam vek thei a ni.

## BUNG - 3

### THEI CHI HRANG HRANG TE

#### THEIHAI

Theihai hi lei hmun chi hrang hrangah a tha duh hle a. Mahse leime leh thawah chuan a kung tha hle mahse a rah tha duh vek lo thin. Tichuan lei tak bellei ang leikhak a duh ber a. Tin, Theihai hi chi hrang hrang sangkhat chuang a awm a. A tlangpuiin tlangram ain khawlumah a tha duh vek a ni. Theihai hi thei dang aiin a rahtirh atang-in a tangkai. A la hel lain pickle (Theihai um) atan a tha a, a hmin hnuah a taka ei bakah, a tui sawr (squash)-ah te Jam-ah te a tangkai em em a ni.

**BORUAK NGEIH ZAWNG :** Theihai hian boruak lum leh vawt a ngaithei a, tuipui kam (sealevel) atanga feet sangli zahnih a sang (4200 ft) thlengin a rah thei a, tin khawlum tehna, Celsius 24 atanga 48 thlengin a tha thei bawk a. Mizoramah phei chuan a enkawl dan ang dik taka enkawl chuan a tha duh em em a ni. Tin, ruahtui tlak tam a mamawh hle bawk, amaherawhchu ruahtui tam lutuk leh rial tlak tamna hmunah chuan a rah tha duh lo hle bawk.

**A CHI LAK DAN :** Kan sawi tawh angin Theihai hi chi hrang hrang a tam em em a. A rah that leh that loh pawh a chi-ah a inngnat nasa em em a ni, a leilung buatsaih a pawimawh ang bawk-in a chi tha hian kawngro a su nasa a ni.

Mizoramah hi chuan, Theihai rah tha deuh mu kan hmuhi hi chuan, huanah te kan ching nazawng zel a. A hmin tha mang lo, dah hmin chawp te alo ni a. Tin, a kung hrisello a mi te a lo nih chuan a kung tha hluah mahse a rah tha thei ngai lova, mi tamtakin beidawn nan kan hmang duh chawh thin. Chuvangin mi ramah chuan a chi an duh uluk em em a, Theihai rahloh a awm ngai velo

## A CHI THA LAK DAN CHI HRANG HRANG TE :

1. Kawlawm : Hei hi khawvela, 'Theihai' ch' tha lak darhna awlsam ber leh lar ber a ni.

Theihai kung tha leh a tan tha, duh ang kung ami khawchhak lam emaw, chhim lam zar ami emaw kha, kutphah leng vela, a kawr kha thol thlak in. Tin, kawlawmna zar kha banrek uat vela lian anih chuan a thing tak pawh a zahve vel chehrein. Tin, a tang te deuh kezungpui tiat vel lek kawlawm chuan hmun thuma thena hmun khat sah rek tur a ni. Tichuan leitha thosihlo tlemte pawh a, inches hnih vela chhahin chumi a kawr thei thlakna a, sarangin emaw buara pan chiin emaw, nghet taka tuam hnan tur a ni. Tui tlai tin pek tur a ni. Kawlawm hi March thla emaw April thla emaw to ruahsur hmasak ber zawh chiahah tih tur a ni a. Tichuan June emaw July thlaah emaw chuan a zung a rawn lawr fir fer anga, a phunsawn hun a ni t'h hriatna a ni ang.

2. A Mit Sawn (Budding) ; Hemi awmzia chu Theihai kung. puitling tawh sa a, a zar lo chawr tur mit kha, chemte hriam tak leh fai taka kut zungthum leng vela hlara dim taka zai thlaka, tin, 'Theihai kung vek a rah tha zawk kung ami kha a zar lo chawr tur mit chu, a chung a kan sawi tiat vel bawka zaithlak a,' dim taka, Theihai kung pakhat a mit kan zaithlaknaah khan, zaithlak veleha rem taka va bel thlawp tur a ni a. Nghet taka tawn leh a, tawn leh hnu chuan tihchei hauh tur a ni lo. Tin, tui leih hauh loh tur a ni bawk. Budding hi August thla leh September thlaa tih tur a ni. Tichuan a rah tha mit chu a lo chawr ang a, rah tha tak a rawn chhuah dawn a ni.

3. A Kung Zawm : Hetiang tih dan hi a mit sawn aiin a nung samin a hlawhtling duh zawk a, mahse boruak vawhna ramah chuan a hlawhtling mawh viau a, khawlmah erawh chuan a hlawhtling duh hle a, uar pawh an uar em em

a ni. Theihai chhe chi, a tiak awlsam chi an kuitiak teuh va, feet hnih feet thum vela sang a nihin a zik feet chanve vela tanchhum a, tanchhumna lai chu a lei thuk bikin a tawn tawn chu an tikak a, tichuan Theihai kung tha ami a zik feet chanve velin an tanchhum a, tanchhumna lai chu zum seun Theihai kumah thar tanchhum takah chuan rem taka thun luh tur a ni a. Tichuan sarang hruiin nghet taka tawnbeh tur a ni a. Tichuan Theihai tha zik huai lama peng chawr a awm chuan rang taka tuai chhum zel tur a ni a, Theihai tha chi kung a lo ni mai ang.

**A PHUNNA LEI BUATSAIH DAN :** A phunna tur lei chu January thla atanga March thlaah pen thum bial, killi nei a, lai a, tawngthum vela thuk a lai tur a ni a. Tichuan Bawnggek leitha emaw hnah tawih leitha emaw leitak tinkhat chawhpawlh, a khur laihna lei chunglang nea a pawlh khawmin vur tur a ni a. Tichuan June atanga July thlaah phun tur a ni. Tin, a khur mawngah lungchag rem thlap tur a ni,

**A PHUN DAN :** Theihai lui kuitiah atanga phun-sawn anih chuan, a zung bulpu ber ziding kha kut-phah chen vel zuah a, a zung hmul vel kha chu hlawi vek tur a ni. Tin, phun zawnga, a zung thlep hi pawl tak a ni a, a kung tha hluah mahse a rah tha thei lova, par chuan mahse a rah tak tak hmain a tla fai leh vek thin. Phun hma a, a lei seh chin chiah kha phun thum tur a ni a. Tin, phun zawwah a zung thlep palh a awm loh nan tlema chawikan leh tur a ni. Tin, phun thar chu tih chet miah loh tur a ni a, a chot theih chuan a nung thei thin lo, a zung tanna kha a silawng a, zung a kaih thei thin lo.

**LEITHA PEK DAN :** Theihai phun hma, a khur a leitha pek mai kha a tawh lova, leitha pek dan a zirin, a rah dan a danglam daih thin a ni. Theihai kum hnih a upa tan, a kung atanga khap'khat a

hlaah, Fone Meal leitha dut no riat leh NFK no khat in pawh dan tur dik tak pawh sa (mithiam te rawa chung) chawhpawhin pek tur a ni. Tichuan a par hma chuan kum tin fur ruah tlak hma March April velah pek ziah nisela. Tichuan, a rah tha duh em em a ni.

**A PAR DAN :** Theihai hi khawval hmuntinah par loh kum (off year) a nei theuh a, mahse mithiam ten nasa tak in a chhan an zawng a, hmuhchhuah ala ni meuh lova, India rama a rah lian chi-ah chhan kumtin Par leh rah thin chi bik an hmuhchhuah te chu :—

- |                        |            |
|------------------------|------------|
| 1. Bangalora.          | 2. Neilum. |
| 3. Totapari Red Small. | 4. Romani. |
| 5. Mallika and         | Amrapali.  |

Inbula phun chuan a tlem berah kung hnih, pen sawmhnhit dana phun tur a ni. Tichuan alo inraia, a pa chi emaw, a nu chi emaw a inpe tawn a, a rah tha duh bik thin bayk.

Tin, Theihai kung tha thenkhat te, a rah lawh zawh hma kum a, par nawn leh te a awm chawh thin a, hei hi Mizo chuan a tang rah kan ti a. Hetiang par nawn hian a kum leh a, a hun pangngai kha a tichhe hiauh thei a, chuvangin e hun lova par chu kawihbal vat tur a ni.

**EICHHETU RANNUNG TE :** Theihai hi eichhetu rannungin a bawm duh em em a, chuvangin ngun taka enkawt a ngai a, a bik takin a par laun eichhetu an tam zual thin.

1. A Par Eichhetu (Mango Hopper) : Hei hi Theihai par eichhetu ber leh a rah thei lova siamtu a ni a. Theihai par hmain a hnah invuakna karah a tawm a, tichuan a par chhuah veleh a bihrukna atanga lo chhuakin February thla velah a ei tan a, a par no laia tui awm chu a hip chhuak a, a rah tur a tichhe vek thin. Hetiang rannungin a ei chuan, a par a lo til a, a chhum bawt a, chuvangin a par kuhmum hmaa, Malathon emaw Diazinon

in emaw, Carbaryl emawa kah tur a ni. Heng dam daw hman dan hi, Agriculture mithiamte rawn a, buatsaih tur a ni. Tin heng damdawi vek hmanhian, a rah lawh zawh veleh kah bawk tur a ni.

**2 Khumfa Var (Mealy Bug) :** Thungbuk hnua, leichhungah a tui khawl vak a, December leh January thla velah a kungah a lo lawn a Theihai ziknoah an bet khawm vak a, a zikno leh a par kuhmum an seh kua a, a tui an hip thin. Hei vanghian a par tha thei thin lova. Hetiang khumfa danna chu, khawlum laan Theihai bul vel an lai phut a, a tui a lo awm chuan, nasaah an-thai darh a, a thi mai thin. Tin, thosihlo pawhin an kap bawk thin a. Tin, Theihai kunga, a lawn loh nan, Theihai bul atanga tawng thum vela sangah Petrol emaw Khawnvartui emaw, Motor greese emaw an hnawih vak thin. Tichuan, a lawn thei thin lo.

khing a chung a mi nilo pawh natna tam tak leh rawn bawm chhetu an awm a, Agriculture mithiamte rawh an ngai ang.

### BALHLA

Thawnthu thenkhatah chuan Eden huan, kan Pi Evi rulin a thlem thlukna kha Apple ni lovin Balhla zawk hi a ni a. Tin, a saruak khuh nana a hman pawh kha, Theipui hnah nilovin, Balhla hnah hi a ni zawk an ti a. A enga pawh chu nise khawvela thei darh zau leh lar ber pawl chu a ni phawt mai a. A hman tangkaina pawh a tam em em a, sawi sen pawh a ni lo hial ang.

**A BORUAK LEH LEI NGEIH ZAWNG :** Balhla hian eng lei pawh a ngeih a, boruak lum leh vawt pawh a tuar thei a, thlai enkaw! nuam ber pawl a ni. Kan Mizoram tlang ramah hi chuan, lei thar, min dam lehah te, lei thaw, a ngeih em em a, khawihmunah pawh a putling thei deuh vek a ni.

A boruak ngeih loh zawng chu damah a tha thei lova, thli na lovah a tha duh bik thin.

**A CHI LAK DAN :** A bul peng phun darh hi, a lar ber a, a hlawh ung ber bawk. A bul peng chu tawng khat vela sanga, chemhriam taka, a bul-bawk chin kha sahthlak hlawk tur a ni. Tin, hemi bul peng sahthlak kha a var har tur a ni a, a ukin emaw, a dum tiak tuk a nih chuan chin loh tur a hi a. Tin, a kung hrisel loh bakah, a tawih duh a, a tam duh bawk a, a kung hrisel tak a mi pawh a peng hrisel lo a awm theih avangin, a chi lak hi fimkhur a ngai em em a ni.

**A PHUN DAN :** Hmun zawl atan chuan phun dan thar an hmu chhuaka, lei kha feet thum danah line-in an hai khuar inkarah chuan an ti pawng a, tih pawn lai pawh hi ngil 'akin (line) an siam a, a pawng laiah chuan leitha dahin a khuar lai (kawr siamchawp) ah chuan Balhla chu an phun thin a, a pawng laiah chuan leitha an pe a. Mahse hetiang hi tlangramah chuan a tih ve theih loh avangin a khur penhnih bia a laih a tawngkhat vela thuk laih a, hnah tawih leh ekdur leh lei chunglang a khur laihna a mi kha vurin a tha duh em em a. Balhla hi a kum hnihn atangin a peng nasa duh em em a. Tichuan kung lianpui puiah a buk vak thin, mahse kungkhatah a lian lian pathum chauh zuaha, a peng dang te chu sahthlak vek tur a ni.

**A KUNG ENKAWL DAN :** Balhla hian hnim a ngai thei lova, englai pawhin a bul vel a fai reng tur a ni. Tin, a kum thumna atang chuan a bulpui kha karphawngin, a peng hrisel kha phun thar leh tur a ni.

A hnah ro leh kauro eng thet thut te, a hnah lei lama uai thla leh a kung tuamtu a kawr ro te awm tir loh reng reng tur a ni. Rang taka sahthlak zung zung tur a ni. Heng a hnah ro, uaithla te hian a kung a tiche vek thei a ni.



## EI C I H E T U R A N N U N G L E H A N A T N A T E :

Bahla hian rannung chi hrang hrang leh natna chi hrang tam tak a nei a. Agriculture lam mithiam te rawn a tha ang.

## SERTHLUM

Serthlum chi hi chi hrang hrang sang tamtak a awm a. Hatah hi chuan Serthlum (Mandarin Orange) an tih ang hi thlur bing ıla. Amaherawh chu, ser chhungkua reng reng hi chu an lei tha duh zawng leh, boruak duh zawng, enkawl dante a inang deuh vek avangin, thenhran a ngai lem lo a ni.

**A BORUAK DUH ZAWNG :** Serthlum hian khawlum leh vawt a ngaithet hle a, chu tih rual rual chuan khawlum chu a ngeih zawk a, a puitling sam bawk a. Tuipui atanga feet 6500-a sang thlengin a chin theih a, a lum leh vawh thua chuan kan Zoram boruak ang vel, (10 Celcius) thlengin a tha duh em em a ni.

**A CHI LAK DAN :** Serthlum hi a chi kuitiah (Nursery) atanga lak chhawn hi a lar ber a. Tin, Theihai ang bawk a, a mit lak chhawn (budding) leh a kung zawm (layering) leh kawlawm (crafting) pawh an uar em em thova, heng a chung ami te khi, Theihai tihdan nen khan a in ang tho a ni. Tin, heng bakah hian a zung puak pawh an siam chawp thin.

A zung puak siam dan chu January-ah a zung pawnlang deuh kha chemun thuk vak lovin an sat pem a, lei pan deuh takin an chhin leh a. Tichuan, June thla velah kha sahkhemna bulah khan a rawn chawr qhhuak ta thin a, a kum lehah chuan phunsawn tham alo ni tawh thin a, mahse a zung puak siam hi a kungin a tar hma phah nia an hriat avangin a lar em em lo a ni. Tin, a chi kuitiah tur buatsaihah chuan, a hmin tha leh a kung hrisel a mi, a kung la nula tak rah ami a ni tur a ni.

**PHUNNA HMUN BUATSAIH DAN :** Serthlum phun dawn reng rengin a khur pen thum bial, tawngthum a thuk laih phawt tur a ni a. Tichuan, a khur laihna lei chunglam hang tha leh ekdur leh hnahtawih tinkhat theuh tipawha lei dang nen, vur tur a ni. Tin, a khur mawngah lung chang rem khah thap ni sela, Tichuan, a khur hi December atanga Februry thla vel thleng buatsaih tur a ni a. Tichuan, May atanga July thla thleng phun a hun a ni. Mizoramah hian hetiang ang taka uluka phun hi kan la uar lova, leitha pek pawh kan uar lo hle a, chuvangin Serthlum atam kan ti fo thin.

Tin, a khur mawng a, lungchang emaw, lei-rawhchan emaw rem hi a tha em em a, a zung zikpui leithuk lama lut thla thuk tur kha alo veng a, a zung chu alo taidarh a, a zung a taidarh chuan a kung peng alo chhuak tam leh a, a kung alo tawih a, tin a zungpui kha leiah a luh thuk loh chuan a kung pawh a sang lutuk thei lova. Tichuan Serthlum kung chu tawng sawmhnih sawmthum vel leka sang alo ni ang a, a tawi buk em em bawh ang a, hniam te teah, kungkhat ah sanghnih (2000) lai te a rah thei thin a ni. Hetiang ngata uluka phun chuan kumli a nihun a rah tan a, kum sawmthum sawmli thleng tha takin a rah thin. Kan ram boruak hi a ngeih tawh chauh a. sumhwar tha tak a ni.

Serthlum phun hi khat tak pen sawm atanga pen sawmpanga kar danah nisela a tha duh a ni.

**A KUNG ENKAWL DAN :** Serthlum phunna hmun hi englai pawha samfai reng tur a ni a. Tin, a bul vel penhnih bial chu hnim pakhat mah awm lova rihfai hliau a, tihpawn san bik tur a ni.

Tin, kumtin, toruah hnasa sur hma, February thla atanga March thla thlengin leitha vawikhat pek ziah nisela. Serthlum hian thei dang zawng zawng aihn leitha a mamawh nasa a. Leitha duh tawh a hmuh loh chuan a hnah alo eng thut thut a, a tam

kan ti mai thin a ni. A bik takin Fertilizer (leitha) NPK a mamawh a. Tin, leitha a mamawh leh mamawh loh chu a hnah huan a hriat ber thun a ni.

NPK hi a zung, a kung, a hnah atanga, leitha chawhpawh sa a ni a. Pek tawh dan chu Agriculture mithiamte rawn a tha ang. Tin, damdawi lama siam leitha pek huan lei a tih thur duh avangin ekdur emaw hnahtawh emaw pek tel ziah tur a ni bawh. Tin, (bone meal) leitha saruh hersawm pawh a tha em em bawh.

Tin, Serthlum hi thei dang angin a hnuaiah engmah chin tur a ni lova, leitha a mamawh em em avangin leitha eitheitu thlai reng reng chin pawh loh tur a ni.

SERTHUM EICHHETU RANNUNG TE : (1) Serthosi : Zotawngin Serthosi tun lam chawp mai ila. Saptawng chuan Citrus flies an ti a. He thosi huan Serthlum rah hlm hnunah a tui a, thosi pakhat in tui 800 lai a tui thei a, heng a tui te hi an lo keuva, a rah leh a hnun inkarah bu an khwar a, a rah no chu an ei pawp a, a rah a tla thin a, heng a rah tla te hi hmun hla takah pah a, hal tur a ni.

Hetianga a lo nat chuan Malathion emaw, Trichlorfon emaw Fenthion chuni tlem te pawh kah tur a ni. A damdawi pawh dan chu a burah a in ziah loh chuan, Agriculture mithiam te rawn a ngai ang.

(2) Mites : He rannung hi India ramah chuan Serthlum leh ser eichhetu hluar tak a ni a, a hnah hnua lamah a tawm a, A hnah a ti var thur a, a hnah no chu a lo chhah tut tut a, a khaw bawh a tichuan a par tur ziknoah a kai chho leh a, par tha thei lovin a siam thin. Hetiang Serthlum kung a lo awm chuan, a awmna zar kha, tanchlum a, hmun hla taka pah a nih loh pawh hal tur a ni. Tin, damdawi, Malathion emaw Parathion emaw Carbophenothion a kah tur a ni. A hman dan chu mithiam te rawn a ngai ang.

(3) Serthlum Phengphehlep : Phengphehlep lian chikhat, Citrus Suiking Mo'h-an ti a. Serthlum a rah hmin tantir a thlum hunah a ei pawp a, a tui a dut chhuak a, Serthlum rah chu tawh lak lohvin a siam thin. Tin, hetiang Phengphehlep hi a hnawksakin huan neitute hmelma a tling hial a. Malathion leh chin pawha kah vat tur a ni bawk

SERTHLUM NATNA TE : 1. Serthlum tam hri (Quick decline) : Hei hi Serthlum natna zawng zawngah a hlauhawm ber leh a rang ber chi a ni. Khawsikpuiin mihring a tihlum a, midang a kai chhawng ang hian, he natna (Tristeza) hian 1930 atanga 1960 vel khan USA California, Argentina leh Brazil velah a leng darh nasa a. Tin, 1960 bawr vel khan Australia-ah aleng bawk a. Mithiam te pawhin a tih dam dan anla hmuchhuak meuh lo.

Hetiang hripui a lo vei hian, a hnah a eng thut thut a, a hnah a tla a, a pil a lo khawk a. Tin, a zung a lo rova, a kung pumpui a' lo thi thin a ni. Hetiang natna lak atanga ven nan, Serthlum tiak phun sawn dawnin Tetracycline-in a kung leh a zung inzawmna laiah an chiuva, ziaawmin chin-chi hleah an ngai a. Tin, hetiang natna Serthlum hmun hluia, Serthlum bawk phun leh dawn phei chuan, Tetracycline-a chiu ngei ngei tur a ni.

2. Greening : Hetiang natna hi kaichhawn ve theih tho chu a ni na in, a tam hri ang em chuan a nasa lem lo, Serthlum tichhetu ber chu a ni ve tho a ni. A hnah a lo dum thluah thluah a, a hnah a lo chhah a, a khawr bawk thin, he natna hian a kung puitling tawh a bawr ve meuh lova, a kung la naupang a bawk a, rah thei lovin a siam thin. Hei pawh hi phunsawn dawna, Tetracycline a chiu tur a ni.

Tin, he natnain a bawh tawh kung te chu a bul chawpa kar vat a, ram hla taka paih daih tur a ni.

Heng kan han sawi bakah hian natna lam  
tak leh rannung tam tak bawhchhetu an awm a,  
mithiamte rawn fo tur a ni.

**SERTHLUM LAWH DAN :** Serthlum leh ser chi  
reng reng hi, a rah a lo puitlin a, a rah a thankin  
a lawh chuan, a hmin a thlum tur ang thovin a  
a tha a, a dah rei theih bawk a. Ram hla taka  
thawn tur a nih chuanthung parsala siam a, bua-  
pawl emaw di kung ro emaw kara fel taka rem  
thlap a, a chung lam leh hnuai lama, boruak  
luhna tih kuak tur a ni a. Tin, bawmrang pawh  
a tha em em a ni. Tin, Serthlum rah lawh  
hlim hi puan nem ro fai taka hruk hul phak nisela  
a tha riau duh a. Tin, a hnawng chung a parsal  
emaw bawmrang emaw chhunga dah chuan a  
tawih vat thin a ni.

## G R A P E S

Grapes hi khawvel thei upa ber pawl leh tangkai  
em em a ni a. Ram vawt leh ram lum a ngam a,  
a chingtuten zawngchhang lo an awm lova. Thei  
nunnem leh tangkai, khawvel mite tihlimtu,  
an ti hial a ni.

**GRAPE CHI HRANG HRANG :** Grape hi chi hrang  
hrang singkhat aia tam a awm a, chuvang chuan  
kan sawi seng lovang a. Chi hnih chauh thlur  
bing ila, a mu nei chi leh mu neilo chi hi thlur  
bing ila. Tin, hemi chi hnihah pawh chi hrang  
tam tak a la awm a. Mahse a tlangpuu chauh  
sawi mai ta ila.

**A mu nei chi te :** A mu nei chi hi a senduk  
a ni a. Kum 1890 khan Arab ram atanga a chi  
an lakchhuah a ni a. India chhimlamah chuan  
an chung uar em em a. A kung a that duh bakah  
a rah a tha duh em em a. India ramah chuan  
a lar ber pawl a ni ta a. Wine atan tui a ngah  
bawka, chin uar chi tak a ni a. Ruahtu tam leh  
khawlum a ngaithei bawk a ni.

Hetiang a mu nei chi hi, India rama chin  
lar deuh deuh te chu;

- |                      |                       |
|----------------------|-----------------------|
| (1) Anab-e-Shahi     | (2) Bangalore Purple  |
| (3) Bangui Abyad     | (4) Bharat Garly      |
| (5) Bhokri           | (6) Bian Shirai       |
| (7) Cardinal         | (8) Black Champa      |
| (9) Champion         | (10) Cheema Sahebi    |
| (11) Garly Muscat    | (12) Gold             |
| (13) Gulabi          | (14) Kali Sahebi      |
| (15) Pandhari Sahebi | (16) Pearl-of-Casaba. |

**A MU NEILO CHI :** Hei hi Grape var kan tih  
ang hi a ni a. California (USA) atanga a chu hi  
lakchhuah a ni a. India hmar lamah chuan an  
ching uar hle a. A mu nei angin rei tak a dah  
that ve theih lova. A rah hlawk lo deuh baw a.  
A mu nei chi aiin a thlum a, han ei mai atan a  
tui zawk baw a. Mahse Wine atan tui a ngah lo  
zawk avangin an ching uar vak lem lo a ni. Tin,  
a rah hmin hmam a tla vak thin baw. Tin, natna  
hrik eichhetu a tam duh deuh bik baw a ni. He-  
tuang chi, India ram a, an chun lar deuh deuh te;

- |                       |                    |
|-----------------------|--------------------|
| 1. Delight            | 2. Himrod          |
| 3. Kishmish Beli      | 4. Kishmish Charni |
| 5. Perlette           | 6. Pusa Seedlers   |
| 7. Thompson Seedlers. |                    |

**A BORUAK DUHZAWNG :** Khawlum lam aiin  
khawvawt a duh zawk zel a. Khawlum leh vawt  
tehna (10 Celsius atanga 30 Celsius) atangin kan  
Aizawl, Mizoram boruak hi a ngeih tawk chiah a,  
rah pawh a rah duh em em a ni. Tin, ruahtui a  
mamawh nasa hle baw. Khawvawt thei tih takah  
vur pawh a haw lova. Theikung enkawl nuam  
tak a ni.

**A LEI DUH ZAWNG :** Grape hian lei chitin  
reng a ngeih a, Balu atanga hlum lei thlengin a  
puitling thei vek a ni. A ngeih loh ber chu lei al  
(tuipui bul) Grape hian leitha siamchawp damdawi  
hman ga siam (Chemicals) aiin hnah tawih hi a

ngein zawk mah a, amaherawhchu a rah tam tak tak huan neituin a thar chhuah duh avangin, hnah tawih leh ekdur nena pawlhlin, NPK leitha an pe ve bawk thin.

**LEITHA PEK DAN :** Leitha chu a hnah tlak kawlh lai a pek tur a ni a. Thingzai nawi leh hnah tawih emaw tin khatah NPK leitha mithiamte rawnin(NPK hi leitha ciu thum infun khawm number nei thliah a ni a. A kung len dan a zirin a pawlh tawk number chu) Nobeng nei hnih (2) pawlhlin a kung atanga khap thum vela hlaah tawngkhat vela thuk a, laih khuara pek thin tur a ni. Tichuan a rah thain, a kung a lian hma bawk a ni. Leitha a chawm dan chidang leh chu Urea Baltin khatah nobeag nei hnih pawlha kah tur a ni. A par parh hma a kuhmum laia kah tur a ni. Kha leitha kha a hnah in a hip lut a, a rah that phah thin bawk a ni.

**A CHI LAK DAN :** A chi lak dan hi a nu chi hi tih nun a harsat avangin a kung atanga lak hi a awlsam ber a. Tin, a kung putling hi kumtin sahthlak a ngaih ziah avangin hemi sahthlakna hi a chi tihdarh nan a lar ber a ni.

A hnah tlakkawlh lain a chang atanga a mit lo chawr chhuak tur pathum pali vel tan khalh tur a ni. Tichuan, sarang ip a leitha thun khah saah vihbur mai tur a ni a. Van kawka ngil taka vih burin, sarang chunglangah chuan thingzai nawi emaw thing mawih sahsawm emaw dah tur a ni a. Tichuan, keini tlangramah hi chuan December atanga February thla hi a kung sahthlak hun a ni a. Tichuan June atanga July thlaah phunsawn a hun mai thin. Sarang mawng chu tihpawhin sarang chawp chuan phunsawn mai tur a ni.

A chi lak dan hi chi hrang tamtak awm mahse, a chung a kan sawi ang hi a hlawhtling ber leh awlsam ber a nih avangin thildang chu sawi lo mai ila a tha ang e.

**A PHUN DAN :** A phunna tur khur chu, penthum biala zau killi nena laih a, tawng thum vela thuka laih tur a ni a, tichuan chumi khur laih na a, lei chunglang chu dah laih a, ekdur leh hnahtawih nena pawh a, vur tur a ni. Pensawm kar danah phun tur a ni a. Tin, hemi khur buat-saihah hian sarang a phun chhawn kher loh pawhin an phun ngah mai thin. A phunna hi tih hnawn reng a ngai a. Tui erawh a ling tur a ni lo. Tin, phun pah hian DDT rannung laka ven nan leithaah khan, pan takin nobeng nei no hnih vel pawh tur a ni. Tin, a tang lian chu a nung mawh em em a. Tin, a kung a nula rei thei lo bawh.

**A KUNG ENKAWL DAN :** A kung hetia phun nun a, a lo chawr hian, ziding pakhat chauh zuah tur a ni a. Tichuan, a zam tiding ngil turin mau tawng riat vel a sang vih phuna, mauah chuan tawn beh tur a ni a. Tichuan, Grape chu alo thang sei ang a, tawng sarih tawng riat vela sei a lo nihin, thingril emaw, Cement ban emaw, thirtlawn emaw nghettaka a kung bul atanga pen hnih velah hlaah phun vek tur a ni a. Tichuan, thirzai a phah kual a, thingphunah chuan thirzai chu kilhbeh a, thirzai zui chuan Grape zik zam tur chu hruai kawr tur a ni. Tin, Grape hi tawng ruk emaw tawng sarih emaw a sang alo nihin a zik kha chilh chhum tur a ni a. Tichuan, a chang tinah peng tur alo chawr ang a, chuta lo chawr chu zik pali vel zuah a, a dang chu pah vek tur a ni. Tichuan thirzai phanah chuan a zik chawr pali chu hruai hnan tur a ni.

Grape hi a dan tlangpuiin phun atanga kum thumah a rah tan a. Kan sawi tawh angin Grape hi a kum hnih rahna tur atangin a kung hmawr cheh chhum zel a ngai kan tih tawh kha. A hnah tlak kawh laiin a kung hmawr kha ban chen vel tan-chhum tur a ni a. Tichuan, a chang tinah a zik tur alo chawr chhuak ang a, a zik hian, a kuhmum



a rawn chawr chhuah pui vek ang a. Tichuan, a rah a tam duhin a kung a ti nula reng thin a ni. **A RAH LAWH DAN** : Grape rah hi a mu nei chu a rah a tet lain a hring a a hnu chuan a senduk thun. Tichuan, a rah bawr hring chu a lo sen kim chuan a lawh hun tihna a ni a. Lawh nghal mai tur a ni.

Tin, a mu neilo chi chu a rah hmin pawh a hring tho anih avangin, en mai chuan a hmin lawh hun a hriat theih meuh lova, a rah chu kuta hmeh a, a dup deuh chuan lawh mai tur a ni, A la ruh tang chuan a lawh ala hun lo tihna a ni.

**A RAH HMUNDANGA THAWN TURA BUATSAIH DAN** : A khungna tur bawmrang mau a tahah lehkhah zai nawi karah dah tur a ni a. Tin, lehkhah khawng bawmrang depah chuan dah tur a ni a. Tin, borvak luh leh chhuahna tur bawmrang mawnga lehkhakhawng chu thipawp thluah tur a ni a, chutiang bawkin a chunglam pawh. Tin, rei tak kawl that duh chuan a chung leh mawngphah pawnlamah tuisenin an phuh a, nisaah an phoro leh a, tichuan Grape bawmrang phahah chuan an hmang thun a. Tichuan bawmrang chhung a Grape thun hnuah thil dah vawhnaah nithum vel an dah a, Tichuan dahvawhna atnga lak chhuah hnu thla hnih chhung a dah that theih a ni. Mahse kan Mizoram atan chuan hei hi harsa tak a ni hrih a. Bawmranga, Di emaw, Leikhah chehnawi kara dah mai hi a tha ber ang.

**GRAPE EICHHETU RANNUNG TE** : 1. Kung Ei Nget tu : Hei hi saptawng chuan Flea Beetle an ti a. Aakungah lawnin a kung hnip laiah a ker a, a zik no a eichhe thin. Bucket khatah Thosihlo no bengnei khat pawlh a, uluk taka kah tur a ni. 2. A Hnah Etil Tu : A hnah hnuai lamah a ei tan a, a hnah a lo eng thut thut a, a khawr a, a hnah a etil a, Tin, a ziknoah a chho leh thin, hei pawh hi thosihlo a chung a kan sawi anga siam a kah tur a ni.

3. A Hnah Eipawp Tu : Hei hi chhunah chuan a tawm im tlat a, Zanah a hnah no a eipawp thluah thluah a, a zikah a insawn a, a zik no a eichhe thin bawk. Hei pawh hi Thosihlo a chungamite kan sawi anga, zan thim hnua kah tur a ni. Ni sawm dan zelah kah a, vawi li emaw vawinga emaw kah tur a ni.

4. A Kung Eiro Tu : Hei pawh hi a hnah hnua lam atanga lo chhovin, a kung a ei kua a, a tuihang a hip a a kung a tirova, a par kuhmum tha thei thin lo a ni. Hei hi chu damdawi Folithion a kah tur a ni. Ni sawm danah zel vawi hnih kah tur a ni.

5. A Zung Eichhe Tu : A zung kaih tur atang lo chhuak te kha a lo ei chhum a, a zung karah chuan lut chhovin, a zung pui berah a lut a, a ei chhia a, a kung alo ro phah thin. Hetiang natna hi chu a bul kha ngun taka damdawi Aldrin, baltin khata thirfian li telha kah tur a ni. Ni nga danah zel kah a, vawi li kah tur a ni.

6. A Rah Eichhe Tu : Zanah a rah hmin tur kha a bawm a, a tui a hip chhuak a, a rah lawh tlak lohin a siam thin. Hei hi baltin khatah BHC pawlha zan khawthim hnua kah tur a ni. A rah tirha kah nise a tha.

7. Sava : Grape hmunah Sava a lo kalin a rah an chuk chhe duh hle a, hei hi chu mihringin ven theih a ni a. Ven hman loh chuan puan hringa a rah langsar lai tuam tur a ni.

A NATNA TE : 1. Fur Natna : He natna hi ruah tui tam lutuk atangin a lo awm thei a. A hnah a lo uk bial thluah thluah a, tichuan a kungah a lut a, a tang a tiro thin. Hetianga a hnah a lo uk tan hian chumi zar chu sahchhum hlawk a, paih daih tur a ni. Tichuan a kung a ro hma pawhin a rah a eitawih thin. Hetiang natna hi Oxychloride damdawi emaw Benlate emaw Baristin a kah tur a ni. Hetiang natna hi ruah tui tamna hmun India hmar lamah a hluar bik a ni.



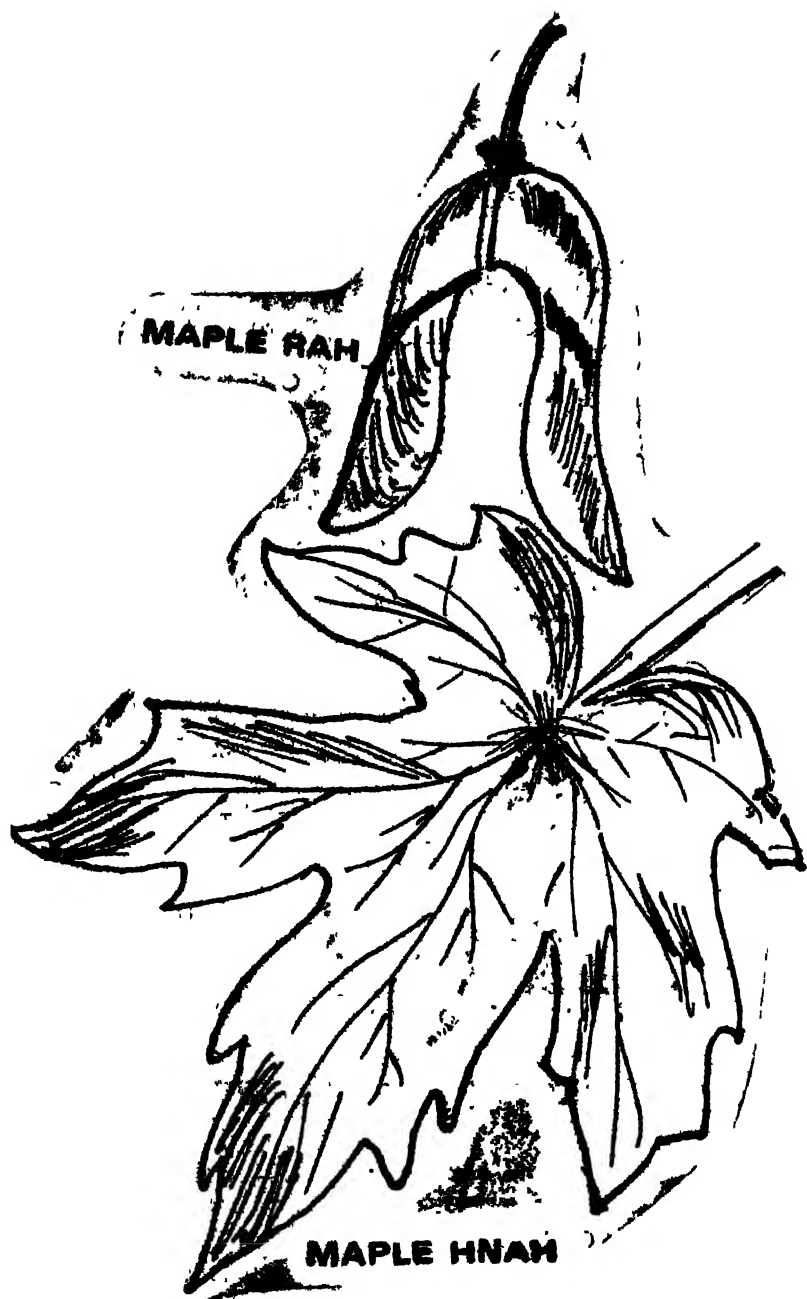
GRAPE KUNG



APPLE KUNG TUNG.



**MAPLE (CHITHLUM) KUNG**



MAPLE RAH

MAPLE HNAH

2. **Khawlum Natna** : Hei hi khawlumah leh ruahtui tlak tlem lutuknaah a awm thin avangin khawlum natna tiin vuah chawp mai ila. Saptawng chuan "Downy Mildew" an ti a. Hetiang natna hi a lo kai chuan a hnah laiah a lo eng thluah thluah a, a hnah hnuai lam alo var phuar a, tichuan a hnah tlang alo rova, a ro thui tawlh tawlh a; a hnah a tla a, tichuan a zik a ro leh thin a, a rah a tiro thin bawk.

Sawi tawh angin he natna hi India chhimlamah a zualkai a, hmar lamah h chuan ruahtui kan neih that avangih a awm ve meuh lo.

Hetieng natnain a tlakbuak veleh Bordeaux a nisarih chhung, ntiin kah tur a ni.

3. **Vutbuak Natna** : Hei hi saptawng chuan, Pomdery Mildew an ti a. Hei pawh hi khaw ro lutuk leh ruahtui tlemna a, natna bawk a ni a. Thlai dangah chuan hetiang natna hi hmun hnawng leh ruahtui tamnaah a awm thin. Mahse Grape-ah hi chuan, hmun ro lutuk vangin a awm tlat thung a ni.

Tichuan he natna hi a lo vei chuan, a hnah chu Vutbuak angin a lo paw thur a, a zikah a kai chhova a hnah a tla a, a zik a lo ro thin bawk, tin, a rah a lo keh a, a tla thin. Hetianga na tih hriat veleh, a hnah a lo pawt tanin Wettable Sulpher a nisarih chhung ntiin kah tur a ni. Tichuan a dam leh mai thei a. Tin, a kung danga a kai zel loh nan Karathane damdawi a kah tur a ni.

**GRAPE ATANGA UAIN SIAM DAN** : Grape rah hian acid a pai tam em em a. Chuvangin Uain a siam hi a awlsam a, dawidim(Yeast) telhloh pawhin Uain tha tak, Sakrament atana kan hman ang hi awlsam takin mahni inah pawh siam mai theih a ni. Tin, Mizoramah chauh lo hi chuan, buh atanga zu siam hi khawvelah an awm ve lova, Grape atang deuh vek hian a ni hlawm. Tin. Grape a acid awm hian alcohol a tichak tha em em bawk a. Chuvang chuan zu siam nan a lar phah em em a ni.

Grape chu-fai taka silin dawidim (Yeast) emaw Mizo dawidim siamchawp pawh a tha viau, Belah boruak lut hauh lova chhinphuiin nisawm-hnih leh pakhat (21) chhung up lat tur ani a. Tichuan nisawmhnhih pahnih niin hawn a, hmeh sawm veka pawlh tur a ni a, Chini chu tha taka chawhsawm hnuan puan pan nem tak hmanga sawr tur a ni a. Tichuan sawra a tui chu ni sawm-hnih pakhat chhung bawh boruak lut miah lovo up leh tur a ni a. Tichuan zu tha leh tui tak a lo ni mai ang. Sawitawh angin Sakrament atan hmang chi (Sakramental Wine) siam dawn chuan chutiang chiah chiah chu a buatsaih dan a ni mai a, dawidim telh ve a ngai lo mai a ni.

Tin, zu tha tak tak an siam dawn chuan, sawr hnuah kum hnih kum thum an dah tha a, a rei poh leh a tha an ti a, Russian Vodka te khi kumsawmli up a ni an ti.

Tin, sawrna fu chu nisaah an phorova, chini an pawlh belh leh a, man to tak takin an hralh thin a. Tin, phoro lem loh pawhin Bawngpui an pe a, a hnute tui a tam duh em em a ni. Bawng an hrisel duh bawh thin.

## L A K H U I H T H E I

Lakhuihthei hian leichhia a ngam a, lei ngeih loh tak tak pawh a neilo, kan Zoramah pheih hi chuan khawh hmunah pawh a tha vek mai niin a lang a. Tuipui bul dum leh tlak lei a ngoih lova. Tin, leithaw deuh leh lungthil hmunah a tha duh hle a ni.

**A BORUAK NGEIH ZAWNG :** Tuipui kam atanga feet sangnga thlengin a chin theih a, khawlum leh vawt a ngam em em a. Ruahtui kumfluana tam lutuk lo a duh a. Tin, nikang a chinin a rah a thlum duh bakah, a rah a lian duh bik.

**A CHI LAK DAN :** A chi hi lak dan chithum a awm a.

(1) A kungpui atanga peng.



(2) A reh hnuai atanga lo chawr :

(3) A rah chhip atangin.

(1) A kungpi atanga peng :

Hei hi a puitlin hma a, phun atanga tna sawmpaliah a rah thei a. Mahse a kung a nula rei deh lo bik thung a ni.

(2) A rah hnuai atanga lo chawr :

Hei hi a chi tha ber chu a ni a, phun atanga kumhniha a rah thin a. A rah a lian bik a. a kung a nula rei bawk.

(3) A rah chhip ami :

Hei pawh hi chin atanga kumhnihaah tho a rah thin a, a kung a nula rei a, mahse a rah chu a lian lem lo, a rah hnuai ami a tluk lo a ni. A PHUN DAN : Mumal tak, a thlura phun nisela, tawng thum emaw tawng li emaw kar danah lei hai vum a, tuihawk luankawr mumal taka siamin, lei hai vumna pawng laiah chuan tawng thum danah, tlar thap a phun ni sela. Tin, phun hma hian bawngkek leitha emaw dahni sela, hneh taka chawh pawlh tur a ni. Tin, Lakhuihthei chi chu phun hmam nisaah nili vel tal pho nisela, a eichhetu hrik a bo nan, phun dawnin a hnah hnuai lam kut zung hnih bawk vel, then fai tur a ni a. Tin, a bul bawk chin kha leiah phum tur a ni. Tlangramah chuan a phun hun hi to ruah sur hma, March thla atanga April thla hi a ni ber a, fur tui tlak tawh hnu a phun chuan a tawih duh hle a ni.

A KUNG ENKAWL ZUI DAN : Nikang chu a ngeih takna a, nisa lutuk chu a tha hauh lova, chuvang-in a khat tawk pen sawmthum inkar a hlaah lei-tha thing, thingkha, Japan zawngtah te phun nise a hnah tla kha Lakhuihthei in a ngeih em em a ni. Tin, Bawngkek leitha a kum hnihaah pek nisela, Bawngkek tinkhat leh leitak tinkhat chawhpawlh, a kung atanga khap khat vela hlaah lei kutpah chen a thuk, khap khat vela zauva laih khuar a ekdur chu dahkhah tur a ni. Tichuan kumkhat

danah pe ziah ila a tha. Bawng ek emaw Vawkek emaw neih loh chuan, hnah tawih tha chi, Tlang-sam hnah, Japan hlo hnah, Thingkha hnah, Japan zawngtah hnahte kan hmuh theih ang ang zut khawm a, Lakhuihtheih bul chu a chung a sawi ang khian laih khuar a, lei a chhilh mai tur a ni.

Leitha hi Lakhuihthei par hma a November leh December velay pek tur a ni.

**A RAH SENG DAN :** Lakhuihthei hi tlangramah chuan February thlaah a par tan a. July thla atnga August thla thleng a hmin thin. Rah changkangah chuan A nu chi leh a pa chi (hermene) pei an duh hun hunah an rah tir thin.

A rah puitling pawh, a chhip eng tut tantir hi a lawh hun a ni a. Tin, a chhipa a chi chawr hi lak thlak lohin a thlum duh bik bakah lawh bnuah pawh a ti hnum tha tu a ni.

A chinna ngaiah leitha pek ngan chuan, kum 30 lai pawh a tha thei a, tin a kung hi kum 6 thleng thlum tha tak, rah lian tak a ni thei a, kum 6 mu lamah chuan a rah alo te a, a thur em em thin. Thlawhfai pah a, a kung upa te kha, a chi lo peng chuan thlak zeuh zeuh tur a ni a, tichuan rei tak nula rengin a kawl theih a ni.

**LAKHUIHTHEI NATNA TE :** (1) A zung eichhetu : Hei hi saptawng chuan Mealy Bud Wilt an ti a. A zung a bawma, a lo thang thei lova, a zung atanga a kung chawmtu chaw tha lakna a tan chinuma, tichuan Lakhuihthei hnah chu a lo eng sen ruai a, a zik a lo tawih a, a kung a thi thin.

Hetiang natna a vei tirh veleh hian a kung chu kar a, paih daih tur a ni. Tin, Lakhuihthei reng reng hi, hetieng natna hrik a vei loh pawhin damdawi Thimet 109, ni 100 danah theh tur a ni. A theh dan chu, mihringin chi kan ei ang a, a al tawh tur ang a hisap a, theh mai tur a ni.

**A BUL TAWIH :** He natna hi tui huh lutuk leh tui ting reng Lakhuihthei bula a awm in a lo kai mai thin a. Mahse kan ramah hi chuan a awm

meuh lova, damah englai pawha hmun hnawngah a awm thin. Saptawng chuan Heart Rot emaw Stem Rot an ti a. Hetiang natnain a ei chuan a hnah a'lo enghring (Vaki rawng) a, a zik no a lo uk a, a hnah han khawih hlek pawhin a pawh chhuah zung zung theih thin. Damdawi bordeaux a, a phunna hmanruate silfai nisela a tha a. Tin Dafoltan emaw captan-in emaw kah tur a ni

**LAKHUIHTHEI SAWR DAN :** Lakhuihthei (Pineapple squash) siam hi a awlsam em em a. A kawr vel fai a, chhutsawmin sawr mai theih a ni a. Tin, hralh atan leh rei tak dah tur chuan a tawk loh nan damdawi (yeast) telh a ngai a. Phui taka chhin tur a ni. Lakhuihthei fir kha, nokhatah tuisik nohnih pawlhin squash kan in ang tawk hi a ni.

**LAKHUIHTHEI CHI HRANG HRANG TE :** India rama lar deuh deuh te chu, Giant Kew, Queen leh Mantitues an ni a. Mizorama chin atan chuan a eng a pawh hi a tha duh vek a ni.

## A P P L E

**A BORUAK NGEIH ZAWNG :** Apple hi khawvawt thei a ni a. Kan ramah hi chuan a puitling mawh viau a, dan tlangpuiin, tuipei atanga feet 4000 chunglamah a tha duh a. Tin, a hniamah pawh vur tlakna ramah chuan a tha thei tho mai. Vur huan ruahtui ang thova, a kung a chawm that leh thanduanna a pek avangin Sapramah chuan, khawlum lai pawhin vur siamchawp tlang a bulah an dah fo thin.

Kan Zoramah hi chuan Champhai velah te, Chalfilh, Tawizo velah te a tha pha ang.

**A CHI LAK DAN :** A chi (a mu) atanga lak hi a tihto a harsa em em avangin, a kung atanga rah sa kawlawm hi khawvelah a lar ber. Engpawh nise kan Zoram angah hi chuan a harsa leh zual a. A chi tha laksa chu, Vurkhawl, vur bulah (32-40F) ah thla thum dah phawt a, chutah a

kuitiahna turah, thlasik khawvawh lai Vur tlak lai ngei a, leitha nena kuitiah tur a ni.

**KAWLAWM** : Hei hi sawi tawh angin a puitling sam a, a nung duh bawka a, khawvel mi zawng zawngin an chin lar ber a ni. A puitling tawh sa, a zar chawr thar, kumkhat vela, a zar upa kha thlasik, a hnah tlakkawh laia kawlawm tur a ni a, tichuan a kum leh thlasik vur tlak laia phun sawn tur a ni. Theidang angin a mitthlak (budding) leh a kung zawm (layering) te an uar ve lo bawk.

**A PHUN DAN** : Apple phun dan hi Serthlum te, Theihai te phun dan ang bawkin a khur pen li bial, tawnglia thuk bawka laih tur a ni a. Tichuan a khur mawngah chuan lungchang emaw leirawhchan emaw phah thap bawk tur a ni. Tin, hmun zawl aiin awih pangah a tha duh bawk.

Tichuan a khur laihnaa lei chunglang kha dah hrangin a hnuaia, sawi ang hian a khur hnawhna tur lei tha pawlh tur a ni.

1. A lei chunglang tin 3.
2. Bawnggek lei dur tin 3.
3. A hnahtawih tin 2.
4. Saruh leitha (bone meal) nobengnei 2.

Khing leithate bakah chuan lei pangngai kha pawlh tur a ni a, phun hma thla hnih a, a khur hi buatsaih ngei ngei tur a ni a. Tin, a khur chu apple phun hunah chuan, lei dang aia tawng khat dawn laia pawnga vur tur a ni a, pen sawmhnih panga kar danah phun tur a ni.

Zoramah hi chuan kan lei hi a that em avang-in, thlai reng reng hi a khur lai lovin kan pawng phun tawp mai thin a, thlai hi kan ti rah ve tho mai thin a, a mak zawk hle a ni. Hetianga Apple hi duat taka kan phun chuan kan ramah hian ei tlingin sum hnar tha tak a ni ngei ngei ang.

**LEITHAA ENKAWL ZUI DAN** : Phun atanga kum khatah a kung hnuaia damdawi leitha hi pek tur a ni a (Mizoramah lei tur a phun duhin a

hmuh loh chuan, he lehkhahu ziaktu hian phai lam ami englai pawhin a chahsak thei reng a ni).

(1) EK dur leh hnah tawih inpawlh tin khat (1).

(2) Muriat of potash no chanve (1/2).

(3) Superphosphate no hnih (2).

(4) Cal. Ammonium Nitrate (CAN) no thum (3)

Khitiang khi kum khatnaa a mamawh chu a ni a. December thlaah Apple kung atanga, khat a hlaah lei chunglang kha hai kianga pan rual dap a, hneh taka chawhpawha pek tur a ni a, tichuan lei pangngaia khuh leh thlap tur a ni. Tin, lei tha kan sawite khi number khatna atanga number thum khi December thla chhunga pek ngei ngei tur a ni a. Number lina erawh khi chu a chanve dang February thlaah pek tur a ni. Tichuan heng leittha a mamawh zat hi an kum zata pun tir mai tur a ni.

Entir nan Apple kum thum a upa chu, hetiang a puntir tur a ni.

(1) Ek dur  $1 \times 3 = 3$

(2) Muriat potash no  $1/2 \times 3 = 1.1/2$

(3) Super phosphate no  $2 \times 3 = 6$

(4) C.A.N. no  $3 \times 3 = 9$

Khitianga an kum zahin, kum sawm chhung pek tur a ni. Tin, hetiang a uluk taka chawm chuan a putling hmam a rah a hlawk em em a. Kum thumnaah a rah loh chuan a kum li naah a rah ngei ngei ang, a kum li naah a la rah loh fo chuan, a kung chakna leh ti par tu Zinc leh Baron a mamawh tihna a lo ni ang a.

India hmar chhak lama chingtute hian, Zinc leh Baron hi Apple kungin a mamawh em em a ni tih an hmuchhuk thar a. Tichuan he damdawi pawh hi pek ngei a tha a ni. Kum thumna atanga pek tur a ni.

A PEK DAN : (1) Zinc Sulphate 0.04% : Hemi leh chinai tui pawlh a, June thlaah emaw July thlaah emaw kah tur a ni a. A kah dan diktak

chu a burah a zia<sup>''</sup>k vek a. Saptawng thiam chhiar tir mai tur a ni.

(2) Baron0. Satanga 0.08% hman tur a ni a. Bur a awm saa, Sodium borate pawlha May thlaah kah tur a ni. Tin, kap lovin February thlaah a kung bulah pawh leih darh mai pawhin a tha em em tho a ni. Hemi hman dan pawh hi a burah a inziak vek a ni.

**A KUNG ENKAWL ZUI DAN :** Sawitawh angin a khur kha, tha taka laih khan kawngro a su nasa em em a. A kung lo tai darh khan a kungah pen g<sup>''</sup>tam tak a lo chaw<sup>''</sup>r theih phah thin a.

Apple kung chu tawng thum vela sang a lo nihin a zik pui ber kha a hnah tlak kawhlhla<sup>''</sup>in tan chhum tur a ni a. Tin, a zikpui hnuai lamah peng awmsa a awm chuan, tawng khat vela sang (a zar penna atangin) zuah a, tan chhum vek baw<sup>''</sup>k tur a ni

Tichuan kum thum chhung chu tan ziah tur a ni a. Kum lina atang chuan a rah kum a lo nih aawn tawh avangin tan chhum tawh loh tur a ni a. Hetiang ang thlapa enkawl chuan, a kung kha zar hniam te tein a lo tawi khat laih mai anga, awlsam takin a lawh zung zung theih a ni.

Tin, a zar hrisel lo bik emaw a zar tih<sup>''</sup>tlih palh kha a kungah uai tirr<sup>''</sup>eng reng tur a ni lova, then<sup>''</sup>fai vat vat tur a ni.

Tin, a kung puitlin hnuah pawh a zar sang bik lutuk a awm a nih chuan December thlaah sah<sup>''</sup>thlak fo tur a ni a. Tin, a kung puitlin hnuah a zik ban chen vel kum hnih danah a zar tin ami kha sah<sup>''</sup>thlak nisela, a nula rei duh baw<sup>''</sup>k. Fanghmir leh Tlumpiin a bawm tur a ni lova, a bawm hlahu chuan rang taka tihreh vat vat tur a ni.

Apple hnuaiah hian Canada-ah chuan Bekang an chung nasa thin. Bekang khan Apple tan leitha nasa tak a siam thei a. Apple tan leitha pek kha Bekangin a ngeih em em baw<sup>''</sup>k a ni.

**EICHHETU RANNUNG TE** : Tlangramah heng a hndaa rannung eichhetu te hi an hluar bik a, rannung dang chuan an ei meuh lo.

1. **Rannung Var Tereuh Te Te** : Saptawng chuan Wooly Aplins an ti a. Rannung var te tak te te in a bawhin, a kung leiseh chin a lian bawl hruih a, a zung chu avung angin a lo bawk liau luauva, a rah thei lova, a hun lovah a hnah a tla anga, a kung a lo ro thin. Hei hi dan vat tur a ni a. A kung a ro hma pawhin a hun lovah a hnah a tlak phawt chuan enkawl vat tur a ni.

Damdawi Thimet 10G thirfian lian khat leh Rogor 5C thirfian lian thum, baltinah tui a khata dah a, chawhpawliha kah tur a ni. May thlaah kah a October thlaa leh kah tur a ni. Tin, natna a vei kher loh pawhin a ven nana kah hrim hrim a tha.

2. **A Par Titawp Tü (Blossom Thrips)** He rannung hian a bawh chuan a par no a ei zova, a kuhmum hring chu a uk vek a, uchuan a kuh mum atanga tuihnang a hipchhuak a, a hnah novah a insawn leh thin.

Hetiang rannungin a bawm chuan a kuhmum tantirh veleh Folithion 10000.5% a kah tur a ni. A par parh tawh chuan kah loh tur a ni. Tin, a hma ami ang bawkin hetiag rannungin a bawm loh pawhin a venthawn nana kah tho tur a ni. **A KUNG NATNA TE** : Apple hi natna chi tam takin a tlakbuak thei a, mahse kan sawi seng lovanga. India hmar lam leh hmar chhak a, a natna leh tirah theilotu te chauh sawi ila :

1. **Natna Sen (Pink Disease)** : Apple kung mar tha lai a kung a lo sen phoh phoh chuan, a sen lai chu a rova, a khi phuk a, a than a ti thuin a rah tha thei thin lova, a kung a thi thin.

He natna hi hmuh veleh Bliton emaw Diathene Z-78 in a hnah tlakkawlh hma ngei a kah tur a ni.

2. **Vut Buak (Powdery Mildew)** : A zik noah leh a hnah no te vut buak angin a lo var a, a thi thin

Damdawi Kerathane L. C emaw Difoltan emaw a kah tur a ni. A par lai a kahin a rah a veng bawk a, a tha a ni.

3. A Zung Nget ( Collar Rot) : A kung I i seh chinah a kung a ei nget a. Kung pumpui emaw a zar thenkhat emaw a tihlum thin.

Hetiang natna ven danber chu, a kung bulah tui a tling reng tur a ni lo. Tin, a kung tih tawih nan emaw, a chi kawlawm tawng hnih aia hniam a, tanchhumin he natna hi a awm duh bawk.

Thlasik lain khawnvartui emaw, petrol emaw hnawih a tha a, Tin, he natnain a ei kuak tawh chu fai tak a thenfai a thosi hlo hnawih a tha a. Tin, a eikuakna kha, sathaukhawnvar hi tihtui a, hnawhpin tlat tur a ni.

APPLE CHI HRANG HRANG TE : Apple hi chi hrang tam tak a awm a. Mahse India hmar chhakah hi chuan hengte hi an tha duh a ni.

(1) King of Pippin

(2) Red June

(3) Jydemian 's Garly Warcester

(4) Garly shanburry

(5) Fanny

Phai lam atang a a tiak chah dawn pawhin khitiang chi tek hian khawlum a pawisak loh deuh avangin, chah nisela. Tin, khingte khi Shillong a mi chah nisela kan boruk a inhnaih avangin an tha duh bik a, ram hla tak a mi lak ai chuan.

### THINGFANGHMA

Thingfanghma hi a chu kuitiah atanga, phun-sawn a ni deuh ber a. Thei dangte anga, a mit sawn leh, a kung zawm te, kawlawm te a tih ve theih lova, chuvangin a chi tha tak kui tur a ni. Tin, a kung hniam chi (dwarf Varieties) pawh chi hrang tamtak hmuh chhuah thar a ni a, heng a kung hniam chi te hi a rah len zawk avang leh a rah lawh an awm avangin, a lian chi chu, Khaw-velah hian a lar lo tial tial a ni.



A chi kuitiah hun hi khawlum ramah chuan June thla atanga October thla thleng a ni a. Tin, khawvawhna hmunah chuan February thla atanga April a ni deuh ber. Mizoramah hi chuan April thla atanga May-ah a tha duh deuh ber. To ruah in a tih to kha furah a thang duh em em thin.

A kuitiahna hi, a khun a (seed bed) siam a kui hi huan zau tak noi tan chuan a awlsam ber a. Mahse sarang ip a, tih tiah hi phunsawn a awlsam bakah, silawng lova sarang chawpa phun mai hi a than duh zawk avangin an uar zawk em em a ni.

A kuitiahna hi chu balu leh ekdur emaw hnah tawih emaw zat leh zat a, tihpawlh tur a ni. Tichuan sarang chu kutphah tiat vel lek a lian nisela, tah chuan a chi pahnih dah mai tur a ni. Tlai tin tui leih nisela a tiah atanga ni sawmrakah phunsawn tur a ni. A chi tha chu ni 15 atanga ni 20 ah a to thin.

#### A PHUNNA KHUR BUATSAIH DAN :

A khur penli bial tawng thum vela thuka laih tur a ni a. A khur laihna lei chunglang leh ekdur tin hnih chawhpawlh leh saruh leitha (bone meal) nobeng nei 6 vel tihpawlh a, a khur chu hnawh tur a ni.

A phunsawn hun chu June thla atanga August thla tir thleng a ni a. Phunsawn atanga thla sawmpahnih atanga thla sawmpaliah a rah thin a. Mizoramah hi chuan thla sawmah pawh a rah thei a ni. Kan ram boruak hi a ngeih em avangin ram dang aiin a thar hma bik a. A rah a tui bik bawk.

A phunna tur laihkhuarah khan kung hnih zel phun tur a ni. Thingfanghma huan, a hlanga siam chuan a pakung phun telin a rah tha duh hle.

LEITHA PEK DAN : Thingfanghma hi a rah leh a hnah a len em avangin leh a than duh avangin tnei dang zawng zawng aiin leitha a mamawh tam a phun atanga thlarukah a hnuaia kan han sawi te hi kung khat atang zela pek nise. A kung atanga

**khap khat velah a phulin emaw baltinah tui a khata  
daha chawhsawma leih kual mai tur a ni.**

- |     |                                       |       |
|-----|---------------------------------------|-------|
| (1) | Hnahtawih tin                         | 1     |
| (2) | Vut (Meituahna vap) tin               | 1     |
| (3) | Ekdur tin                             | 2     |
| (4) | Sachhia a ruh nena sahsawm tin chanve | (1/2) |

**Khitiang leitha khi siamchawpin hman khatah  
khur laiin emaw dah ila, dah pawlh atanga, thla li  
velah a hman theih a. Thingfanghmain a ngeih em  
em a ni.**

**Tichuan khitiang ang thlapa leitha pek chuan  
kung khatah lian pui puiin 20 lai a rah thei a ni.  
Thingfanghma hi kum 2 atanga kum 3 chung  
chauh rah tha taka, a rah chhuah theih avangin a  
chi tha kha kum hnihna atang chuan kui tiah leh a,  
a khur pangngai kha leitha pek leha hman leh ng-  
hal mai tur a ni. Kum thum aia tam a rah that theih  
loh avang leh rah mahse a thlum theih tawh loh  
avangin, a phunna atanga paih nghal mai tur a ni.**

**THINGFANGHMA TANGKAINA TE : China ramah  
chuan a mu hi ruhut hlbah an hmang a an  
dawlh teuh a, mu 20 lai vawikhatah an dawlh a.  
Ruhut pui chenin kawchhung atangin a tla fai vek  
tiin an ti a. Tin, a hnai li damdawi siam nan an  
hmang tangkai em em a, chutiang bawkin a zung  
pawh damdawi siam nan an hmang a, a hnah no  
chawhmeh atan an kang thin bawk. India ramah  
pawh hian, a rah hel chawhmeh atan a lar em  
em a ni.**

**A NATNA TE : Thingfanghma hi thei dang ang  
lo takin rannung bawh hlumtu a awm meuh lova.**

**A kungah hian rannung dotu damdawi a awm ngh-  
al avangin thei hrisel tak a ni. Amarawh chu natna  
(Disease) in a bawh chhe ve thei a, chungte chu :**

**1. A Zung Nget Leh A Kung Nget : Hei hi sap-  
tawng chuan Collar Rot, leh Root Rot an ti a. A  
chi lirisel lovah a awm thei a. Chuvangin a chi**

thlan uluk a ngai em em, tin, a kuitiahna tur hmun lei kha a chungah lehkhachhia emaw buhpawl emaw dah darh a, hal tur a ni, heng buhpawl hal tur hi damdawi Captan leh Cerasan te a theh hmasaka hal nise, hetiang natna hi a bo vek thei bawk

Tin, tuitling reng leh hmun hnawngah a awm duh bik avangin, Thingfanghma phunna lai kha lei chhun pawn bik tur a ni a, tuitling lova siam tur a ni.

Tin, he natnain a man tawh chuan a pil awlsam takin a pilh puk puk thei a, a hnah a lo eng a, a thi mai thin. Damdawi Bareoux thirfian lian li, tin khat tui pawlh a, kah vat tur a ni.

2. A Hnah Kir (Leave Curl) : A hnah a lo kir chiat a, a hnah a te tawlh tawlh a. A rah a lo eng pup a, a tla mai thin, he natna hi a thawk muang hle a, damdawi a kah tur a ni.

### THEIFEIMUNG (LICH)

Theifeimung hian leichhia te a ngam em em a. Chinai lei al-ah a rah tha duh a. Chinai lung awm lohna ramah chuan an pawlh chawp thin. Tin, tui a mamawh em em bawk a. Tuia chawm that theih lohna ramah chuan a rah tha thei lo.

A BORUAK DUH ZAWNG : Theifeimung hi khawlum lutuk leh vawt lutuk a duh lova. Mizoram hi a that duhna tawk chauh a ni, khawvawt lutuk vur tlakna ramah chuan a rah tha thei lova, a rah pawhin a hmin hmian a khi a, a tla mai thin. Tichuan thlasik lain boruak tehna Celcius 10 hnuai lamah a tha thei lova. Tin, khawlum lutukna ram 40 Celcius aia lum a nilo tur a ni.

A CHI LAK DAN : Lichi hi a chi atanga lak a ni meuh lova, a mu kheh atanga ni li ni nga-ah a chhiat mai thin avang leh a chi atanga tih-to chu a puitlin chung a rei em em a, kum 12 lai a duh thin. Chuvangin a mit thlak (Budding) leh kawlawm, a zik zawnte an uar ber a ni. Heng tih dan hi chu Theihai nen khan a inang a ni.

**LEI BUATSANH DAN :** A hmasain ram tharlam (Virgin land) buatsanh chuan thing awmsa kha kih vek tur a ni a. Tichuan, hai faia, lei chu chawh-phut tur a ni. A khur chu pen li bial, tawng li-a thuka laih tur a ni a, pen sawmnga damah leitha sianttu thing (Thingkha Japan zawngtah) phun tur a ni. Heng thing hian a kung leitha a pek hi leitha siam chawp zia a ngeih zawk avangin Theifeimung hian a rah that phah em em a ni. Ek dur leh hnah tawih leh lei chunglang, tin khat theuh chawhpawlin a phunna tur khurah dah tur a ni.

**A PHUN DAN :** Theifeimung phun hun hi August thla atanga September-ah a ni a. A phunna tur khur laih kha phun hma thla khatah vur lawk tur a ni a. Tichuan a zung awmsa kha thlep hauh lova phun ni se, a phunna bulah mau emaw thing tuai banrek tiat vel nghet taka vih phuna Theifeimung kung phun thar chu tawn beh tur a ni. Thi a thawt pawhin a che tur a ni lo. Kum thum chung chu a kung hi che hauh lova dah tur a ni. A zung hi a thang chak lo em em a, a kung phun thar tih chet phei chuan, a zung thang tur kha a tawp hlauhva a thi duh em em a ni.

**LEITHA PEK DAN :** A hmaa kan sawi ang khan, hnah tawih leh ekdur leh lei chunglang inkhat theuh hisapa chawhpawh hnush (bone meal) saruh hersawm leitha nobengnei riat chawhpawh bawk tur a ni. Tichuan, heng leitha chawhpawh leh leitak chawhpawlin a khur chu vur tur a ni a. Tin, Theifeimung hian damdawi siamchawp leitha (Chemical Fertilizer) aih hnah tawih leh ekdur a ngeih zawk avangin, kumtin ekdur leitha hi pek mai tur a ni.

Tin ekdur kumtin peka, a than mawh viauva, a zik thar chhuah tur a tawp tiat chuan, Calcium a tlachham tihna a ni ang a. Tichuan NPK, kung-khatah no khat phul kual den den in a thang duh em em thin. Tin, a inpawh dan chu hetiang

hi ni sela.

N-1:52

P-0.18

K-1.05

Hemi pathum inpawlh sa chu dawrah emaw, Soil Conservation Office-ah emaw leitur a awm mai a ni. Tichuan, a than duh dan a zirin, kum 10 anih thlongin a chung a leitha kan han sawite khi pek tur a ni a. Hnahtawih leh ekdur chu pek tel 3.5 nisela. Tin, hetiang leitha pek atanga a than a lo that tawh chuan kum thum a zawn a, pek hnuah pek zawm tawh loh tur a ni a. A par kuhmumah pek leh chauh tur a ni.

Tin, leitha pek reng rengin to ruah sur hma-sakhalh a, March thla velah pek zel tur a ni. Tichuan, to ruah surin a rawn nan khan an ngeih duh bik thin.

A KUNG ENKAWL DAN : Phun atanga kum hnihnaah a zikpui kha cheh chhum tur a ni a. Tichuan, a lo tawih tha mai ang a. Hemi hnuah hi chuan tan chhum vak a ngai tawh lova, A kungah a hnah ro leh a zar tliahte a awm chuan rang taka paih vat tur a ni. Kumin a, a rahna zar kha a kum lehah a rah nawn ngai lova, zar dangah a par leh thin. Chuvang chuan, a rah hmin lawh rualin a rah na zar zel kha ban chen vela chhawk zel tur a ni. Tichuan, kumina rah lo zar kha, nakumah a rawn rah leh a, kumina rahna zar chhawk kha, a kum kum lehah a lo rah leh ang a, chutiang zel chuan a nula rei duh a ni. Tin, a kung hi a puitlin har avangin leh nghah chhung a rei avangin, a hnuaiah sawhthing emaw Zikhlum emaw an phun a, tichuan a rah a thar hma pawhin, pawisa tam tak tak a lak-luh thein tho a ni. Tin, Bekang chin pheih chuan, leitha Theifeimung tan a siam theih avangin a tha em em a ni. Tichuan, fur lain Bekang tuba, Bekang seng veleh Zikhlum phun lehin a tha duh em em a, hnim thlawhfaina remchang a ni bawh a.

**A KUNG EITU RANNUNG TE :-** (1) Rannung var (Mites) : Hei hi rannung var tereuh te te, mita hmuh theih tawk tawk a hnah hnuai lamah a awm thin a, a hnah a ei thin. Tichuan a hnah chu a lo ukhmul thup thin a, a kir bawka, a ziknoah a chho va, a hnah leh zikno tuihang a hip a, a kung a thi thin. Heng rannungte hi March thla atanga July thlaah an inlar thin a. A hnahnuaiah an biru tlat thin.

Hetianga natna a lo awm chuan Kathane 0.12% a chawlhkar thum kardanah March thla atanga July thla thleng kah tur a ni. Kathane damdawi a awm loh chuan Dimathcati 0.05 a kah tur a ni a. A hman dan chu, a burkawma a inziah anga hman ni sela.

(2) Pangang : Phengphehlep, Theifeimung kung a tui chi a awm a, he Phengphehlep hi India ramah lo chuan a awm meuh lo an ti a. May leh June th'aaah a hnahah a rawn tui a, ni 12 chhungin a keu a, he mi pangang note te hian, a zikno a par September thla thlengin an eichhia a, tin, a lo lian a, a ril a sa a, a hnahkarah bu an khuar a, nasa takin a ti chhe thin a, tin, a kung a eikaw bawk thin. Hetiang ang pangang a awm chuan Petrol leihin an thi duh hle a, tin, a kung a kherkuak te kha petrol leih a, hlum a charphui tlatin a thi duh bawk.

**A RAH KEH :** Khawlum lutukna hmunah leh khawro lutukah leh, tlangsang lutuk hmunah te, a rah hmin hma a, a rah bawr a keh tuar a, arah hralh tlak loh leh a ti hlawk lo tu ber a ni. A kung tar tawhah te a awmduh bik a, a hma lam a kan sawi tawh angin, a zar hlawi that fo tur a ni a. Tin, tui tling reng thei a bulah a awm tur a ni lo bawk. Damdawi 2,4,5 T emaw NAA hmang a kah tur a ni.

## T H E I T E

**Khawvelah** hian Theite chi hrang 200 aia tam a awm a, a lar zual chauh sawi ila, Tin, a phun dan leh a chilak dan, a kung enkawlzui dan te chu thuhmun vek a ni.

1. Theite Hmul (Peach) : Mizorama kan theite-hmul tih ang hi chu a tualto ramhnuai ami (Wild) a ni a. Ram dang a Theite-hmul chu, lian pui pui Apple tiat, a pil khawh theih thlum em em mai, a hmul te tak te te a ni a, Tin, a kung chu feet 23 atanga feet 30 a tling thei a. A thing hi a tha em em a thutth'eng siam nan te phoikhawk siam nan te, insak nante an hmang nasa em em bawk a ni. A hnah leh a kung awmdan leh a hnah awmdan te chu heng laia kan Theite-hmul ang chiah chiah hi a ni. A hnim chuan a hnah a lo senno chek thin. A man pawh a to em em a ni.

2. Theite-hmul (Almond) : Hei hi kan ram a, Theite-hmul kan neih ang a tualto an tih ang chu a ni a. A mu hi a to duhin a thang duh em em a, a par mawi tak hian a rah aimahin huan neitu a tilawm thin a. Tin, a kung hi enkawl nun leh a thenduh avang chuan, a chi an kuitiak teuh va, Theite-hmul tha chu zawmna (Air Layering) atan an hmang bawk thin.

3. Theite Sen (American Red Plum) : Hetiang theite hi, South leh North America, Mexico leh California vela tualto a ni a. A mu te tak te te, a rah hmin chu senlar, heng laia kan Theite tiat vela lian, a pil chu chhahpui a ni a, vel loh chuan a khawh mai theih lova. Tin, a thlum vak lova, a thur bawk lo, a hang a ni. A kung leh a hnah leh a par dan chu, helaia kan Theite par dan ang deuh chaih hi a ni a, tlemin a hnah a lian deuh.

4. Theite (Damson) : Hei hi Mizorama vai Theite kan tih ang dik tak chi hi a ni a. Hetiang chi pawh hi chi hrang tamtak a awm a. A kung mam chi leh a hnah te deuh chi te, a hling nei lian chi

te an ni a. Khawvel hmun hrang hrang a durh  
zau em em a. Usin-ah te-ah hah a, hetiang Th-ite  
hian acid a paj tam avangin. Theite dang saw ig  
zawng ajiin tengkaina a ngah em em a.

5. Theite Lian (Plum) : Plum thei lo phuhna  
hmasa ber chu, China khawthlang lam leh al-ysia  
tiang ramah a tualto hmuhehhuah a ni. Ramum  
lthuk a ngaithei lova, vawt lutuk a ngaithei bawk  
lo. Theite dang a anlohna chiu thal jain a par ve  
lo va, far tui thak zawhah a par a, November thia  
atanga February thia thlang a rah lawh tur a awm  
thin. A rah hi a lianin, a thlum thei em em a.  
Hindu ho phei chuan thei-serh (Pethian Ram Thei)  
ah an hmang a ni.

He Theite hi a tangkai em em a, Powder  
nhnawih chi) siam nan an hmang thin a.

Phun atanga kumthumna atangin a rah tan a.  
Tin, a hnah hi bawngchawah te an hmang nasa  
em em bawk a ni. Tin, a rah bmin sen hi rawng  
sen leh hmuinhawih (Lip-tick) siam nan an hmang  
bawk. A par hi mitna damaawiah leh Ama dam-  
dawiah an hmang bawk a, a zung hi kawthalo  
damdawi atan an hmang bawk thin.

A CHI LAK DAN : A chi atanga kuitiah te, a  
zungpuak leh a kung zawm (Layering) leh a mit  
thlak (budding) te an ching uar hle a.

A ZUNGPUAK SIAM DAN : A zung pawnlang  
deuh deuh kha, February thiaah an chek kaka,  
leithah an vur leh a, tichuan June, July leh August  
thia velah kha chehkakna kha a lo chawr thin a,  
He zungpuak hi a kum leh June, July thia velah  
a phan sawn theih thin.

LAYERING, BUDDING : Theihai te Serthlum te  
nen a tih dan chu a inang vek a ni.

A NATNA TE : India ramah hi chuan natna a  
nei tam vak lova, a hnah kir leh Maimawmin a  
semin a rah tha thei lova. Diambethone a kah  
mat tur a ni.



## COCONUT

Coconut hming lo chhuahna chhan ni a an sawi chu Portuguese lawnga zin miteh an, an chhuah hmasak ber a ni a. Coconut kawrah hian Ramhuai hmel ang deuh a awm e tiin insawh nan an hmang a, Coco tih hi Portuguese lawng chuan. Ramhuai emaw hlauhawm sawina a ni a, chutatang a Coconut hming hi lo pu ta nin an sawi. Khawvelah hian Coconut chi hrang sang tam tak a awm a. Ramlum leh tuipui kam atanga feet 1200 thleng a tha thei a. Tin, lei chitin mai a ngeih a. Balu lei atanga leime leh thurah pawh boruak lum a nih chuan a tha duh tho a ni. A phun dan pawh khur laih a, chutah leitha ekdir tinkhat leh chi (Common Salt) Kg. khat vel chawhpawh a phun tur a ni.

Coconui ni kum khatah vawihnih a rah thin a, a rah lawh hun te chu March thla leh September thlaah a ni thin.

Dantlangpuin, Coconut hi phun atanga kum li emaw kum nga emawah a rah tan a. Kum sawmnga chhung tha takin a rah thin. Coconut tangkaina hi sawi sen loh khawp a ni a. A kung hi a sang em em a, feet 75 a sang te a ni hlawn a. Tunah erawh hi chuan a kung te chi (Dwarf-Variety) an hmuchhuak thar a, hetiang hi a rah lawh a awlsamin a kung a tar har a, chuvang chuan khawvelah an ching darh mek a ni.

LEITHA PEK DAN : Puerto Rico-ah leh Ivory Coast-ah te an enchhinnaah chuan Coconut chu kum hi a lo nih a, a par tan chhuah tixhin hetiang leitha pek hi kum khatah vawihnih zelin a rah a tha duh em em an ti.

1. Ammonium Sulphate - No. 3
2. Super Phosphate - No. 3
3. Potassium Sulphate - No. 3

Heng chi thum te hi chawhpawlh a, a kung bul a tanga tawng chen véla hlaah March thla leh October thlaah pek ziah chuan a rah a tha duhin a lian duh em em a ni.

THLAI CHINPAWLH THEIH CHI : Coconut hnuaiah hian, Bekang, Badam, Zikhlum, Kawlbahra, Aierg, Pangbal te an chung thin a. An tha duhin an ngeih em em a ni.



## B U N G - 4

### THING CHI HRANG HRANG TE

#### NAWALH THING (Eucalyptus)

Nawalh thing hi Australia ram atanga tualto niin, tunah hian chi hrang 140 zet a awm a ni a. Thing hnah tlakawlh lo chi thang duang tak, a then te pheh chu feet 4000 lai a sang te a ni thin. A hnah hi hriak nei a nih avangin, dampdawi siam nan te hman a ni thin a, a thing hi tuah atan leh lenkhapuan siam nan an hmang lar em em a ni.

A thing hi a thangchakin kum 4 8 velah zai tham leh hralh tlak a ni thin a. Lei chhe takah pawh a puilin theih tho avangin leh khawlum leh khawvawtah pawh a that duh tho avangin India ramah te pawh a lo lar ta em em a ni. Amah-erawhchu a hnah hi a tawih ve lova, tin, hriak nei a nih avangin a hnuaiah thlai dang a tha thei lova, tin, tui a heh bawh a ni. A zung atanga tui a hip nasat avangin; lui tui a tichhe thei ni a mithiam te'n an hriat avang leh a thing hi hralh a nuamin huan neitu te'n thlai dang aia an chin nasat em avangin India ram hian ei leh barah intodelh loh an hlawh phah avangin, sawrkarin heng thing hi uar vak loh a duh ta zawk hial a ni.

**NI ENG :** Daihlm a ngaithei lova, nisa a mamawh em a ni.

**A ZUNG :** Eucalyptus hian zung tha tak a nei a, a thuk zawng leh a taidarh zawngin zung a thlak thin.

**THLI :** Thli natna hmunah chuan zai tlak lohin a kawî ngut thin a, tin, a zêr a arkhel duh bawk a, chuvangin thli nat loh deuhna hmuna phun hram hram a tha. Tin, vur atmna ramah chuan a than thei thin lo bawk. Kangmei a tuar thei hle a, a kung a thih pbah meuh lova, makse a than a ti thu thei a ni. A pil phuhlip chi a tha lova, a phuhlip nei lo chi a tha.

**LEITHA :** A thing. (Specio) bik a zirin leitha a mamawh dan pawh a hrang a ni. A tlangpuin Eucalyptus hian lei thuk tak, leithar lam leh lei chhung hmun hnawng a ngeih ber a ni.

**A KUTIAH DAN :** A rah chu March thla velah a lo chang a, lei a an tlak veleh chhar khawm a, ni li chhung vel nisa a phoro tur a ni a, tichuan a rah chu a lo keh a, a chhung a chi tetak te te chu takkhawm a, a kuitiahna tur a leiohhun pawn bik leitha chawhpawh (Nursery Bed)-ah kui tur a ni. A kuitiah hun chu March thla leh April thla a ni a. A chi chu lei pan te a vur tur a ni a, a tiah hma chuan ngun tak a tui leih tur a ni.

A lo tiah atanga thla khat velah kutphah chen vel a lo ni a, tichuan fimkhur tak a lachhuakin, sarangip, khap khat vela sei, khap khat bial vel a zauah leitha hnawhkhah a phun sawn tur a ni. Tichuan June thla atanga August thla thleng a phun sawn theih a. Sarangip mawng chu zau tak a tih-pawh a, sarang chawp chuan phun sawn mai tur a ni. Thlasikah pawh a phun theih tho va, fur chhung a phun hman loh chuan December leh January thlaah phunin a tha duh tho a ni.

**A ENKAWL ZUI DAN :** Phun atanga kum hnih khat vel chu thlawhfai a ngai a, kum nga atanga kum sarih a lo tinin thlawh thawl a ngai a, kum sawm atang chuan zai tlak leh hralh tlak tak a lo ni tawh thin a ni. Tin, a lei chu ngun taka enkawl tur a ni a, hetia a kung lian hralh tur kih hian bul tak, lei seh china kih tur a ni a, tichuan, a bul atangin a lo chawr leh touh ang a, a chawr lian ber chu zuah a, a dang chu tih tluk vek tur a ni. Tichuan, a kung lian a lo ding leh ang a, kung hnan phun ngai lovin kum sawm velah hralh a lo hun leh ang a, a bul pangngai rengin tumt hum a thar theih a ni. A tum li-naah erawh chuan a tiak thar phun a tha tawh zawk.

**A TANGKAINA :** Thing tuah atan leh insak nan, thutthleng, Almairah siam nan te, tn, damdawi leh lehkhapuan siam nan te, tin, lehkha charna (Gum) siam nan te an hmang thin,

### TLAWR THING (TEAK)

Tlawr thing hi khawvel a thing tlo ber a ni a, a ril phei chu sailungvarah a chang thin a, chuvangin sap ho phei chuan, thing lalpa (King of Timbers) tün an lam hial a ni.

Khawvel a thing hlu ber leh darhzau a ni a, Burma, India chhim, Phillipines, Indonesia, Malaysia, Thailand-ah an phun uar a, a tha duh bawk a. Burma Teak hi khawvelah a tha ber a, a hnungthangin a to ber bawk.

**SIK LEH SA DUH ZAWNG :** Kumkhat chhung a ruahtui tla belhkhawm hi 600 mm atanga 5000mm a duh a. Kan ram ruahtui hi 2000 mm atanga 25000 mm a ni a, tichuan kan ram ruahtui chu a tawk vel chiah chiah tihna a ni. Tin, khawlum leh vawt thuah chuan 16° c atanga 38° c vel a duh a, kan zoram lum zawng hi 20° c atanga 30° c a ni a, a tha duh tawk hle bawk a ni. Tin, tlangsan zawng chu tuipui atanga feet 3000 velah a tha thei a.

Chutiang chuan Aizawl velah pawh a tha thei tur a ngaih a ni.

Hm'm rovah chuan a hnah hi November atanga January thla thleng a tlakawih a, hm'm hnawh chuan March thlaah a tlakawih thin. Tichuan April thla atanga June thlaah a hnah thar a lo chhuak leh thin. A chi lak hun chu January leh February a ni.

**A CHI LAK DAN :** A rah chi chang a lo tlak hm'm a hnuai vel chu lo phiahfai tur a ni a, a tla an chhar khawm bakah an sawi tla bawh thin. A kung hrisel lo leh naupang lutuk emaw upa lutuk ami chu lak tur a ni lova, a chi atanga kuitiah ami lak dawn chuan kum 20 vela upa kung ami chauh lak tur a ni. A bul chawr ami chu kum 9 vela upa a ni tur a ni. Tin, a chi h' bukin Kg 1-ah a chi mal 1800 vel a awm thei.

**A CHI DAHTHAT DAN :** Sai-ip phui taka khung a, tawn phui tlat tur a ni a, hm'm hulah dah tur a ni. Hetianga dah chuan kum 2 thleng a dah theih.

**A KUITIAH DAN :** Teak chi hi tha taka kuitiak tur chuan nasa taka sawngbawl a ngai a.

1. Sai-ip chhungah a chi chu dah a, tuiah ni 2 chiah tur a ni a, ni 2 vel bawh ni saah pho tur a ni. Hetiang hian tum thum lai tih tur a ni. Tichuan a chi-ah chuan tiak tur niawm tak a var a lo awm veleh a khur feet 3 bial, feet 3-a thuk emaw, a chi tam dan azirin a khur chu laih lena laih tet mai tur a ni. Tichuan a khurah chuah thinghnah ro emaw, buhpawl emaw hal tur a ni. A khur la sat vat vat laiin Teak chi chu dah tur a ni a, Sai-ip-a khuhin leia chhin tur a ni. Tichuan ni li hnuah akhur chu en a, a chi chu a lo khik chuan lak chhuah a, a kuitiahna turah dah tur a ni a, lei pan tea vur tur a ni. Tichuan, kum khat hnuah a phun darh theih a ni.

**A PHUN DAN :** Chutia kuisa kumkhat emaw, kumhnih emaw a upa chu a zung nena phawi tur

a ni-a. Tichuan a bul chu leiseh chin atanga kut-zung thum bawh vela sei zuah a, sahhai zawng a tan tur a ni.

Tin, a zung hmul leh zung kak zawng zawng hlawn vek tur a ni-a, a zung ziding pawh saipir khat sei zuah a, tan tur a ni. Tichuan hlam khat kar danah phun tur a ni. Kum sawm a timah thawh leh tur a ni.

A NATNA : Teak hnah eitu bik pangang, Pheng-phehlep atanga lopianga a awm duh em em a. Teak huan, a hlang a phunin a pung duh zualkai a chuvangin Thienvawng leh zairum thingte phun pawh tur a ni a. Tichuan heng pangang te hian a hnah an ei kawih a, a kung an kher nget leh thin. A awm ih hriet veleh BHC emaw DDT emaw in, tui tin khatah nobengnei hnih pawhin kah tur a ni.

### SAL THING

Sal thing hi Teak tluk denh thaw in a hlu a, lo em em a, Himalaya tiang bulthut Nepal ram Biharah te a tuato a. Heng lai ram thingtiang te ei zawng ber a ni. A thing hi a thia em em a, Ref kawng phalah te, insak nan leh bungrua, Sofa Set-ah te an hmang a, Hindu ho thing thianguhim zing a ni a ni.

A boruak lum leh vawh zawng leh a leiah chuah, Mizoram leihang leh boruak ni a ngeih tawh chiah a, a kung hi a thanguh em em a, kum ngaah chuan hralh a ta thei a ni.

A CHI LAK DAN : A chi lak hi a awlsam em em a, June, July thla vela a rah a chang a, a tlak hman, a tlak nghal a, chu chu an sawithia a, sarang-ipah emaw, a phunna tura leilakhuarah an dah nghal mai thin. Hetia a chi atanga tin thanlen hi a hrisel bakah a thanguang bawh a, an uar em em a ni. Chuvangin kawlawh leh a zik zawm te an ching ve ngatho a ni. Eucalyptus ang bawkin a bul ami lo chuwr (Coppicing) an ching bawh

a, chu chu a kung puitling kihnachhau lo chawr  
leh kha tum hnih lai a rin theih a ni.

**RANNUNG LEH NATNA LAKA VEN DAN :**

June, July thla velah phunsawn chu fai taka a bul  
vel tlawh reng tur a ni, hlamkhat leh a chan-  
ve inkar danah phun tur a ni. Tichuan a hnah tla  
leh tawih hi a zungin a ngeih loh thin avangin  
phiahkhawma hal tur a ni. Tin, kangmei lakah ven  
ngun a ngai em em a, uluk taka mei kawng siam  
a ngai a ni.

A kung tet lain ransa leh ramsa lakah ven  
ngun a ngai nasa em em a, a bikin Sakuh leh  
Vawk, Sai ten a kung an eichhe thin a. Tin, Sakhi,  
Sazuk ten a hnah an pet thih bawk a, heng lakah  
hian ven an ngai hle thin.

**NATNA HRIK :** Tin, hmun hnawng leh hnah  
tawih tamnaah natna hrik (Forunthus) an tih chu  
a piang thei a, a zungah an ei a, a hnah a lo uk a,  
a kung chawpin a thi mai thin a ni. Hetiang a, a  
awm chuan a rang thei ang berin a kung dangah  
a kai hmain natna vei kung chu kih vat a, a bul  
chu BHC phul vat tur a ni.

### CHAR THING

Char thing hi thing lian leh sang, kumtlwana  
hnah tlakawh lo a ni a. A bul hi tehkualin feet 30  
lai a tling thei a, a san zawng pawh feet 150  
laia ni thei bawk.

Mizoram, Arunachal-ah te a thaduh hle a,  
Arunachal-ah pheii chuan Plywood Factory tihlawh  
tingtu ber leh, insak nan an hmang nasa em em  
a ni. Tichuan Char hmun hi nasa takin Bihar,  
Himalaya tlang bulthutah te a tualto bakah, a hm  
un zau pui pui huan an siam a, Plywood Factory  
khawl an bun thin a. Mizoramah pawh hian  
tive se chuan, sum hnar tha tak a ni ngei ang.

**A CHI LAK HUN :** September thla leh October  
thla hi a par hun lai a ni a. A chi hi January thla

atanga March inkarah a lo change, a chi hi rawng  
buang thla nei a ni a. nobengnei hnihah a chi  
500 lai a ting thei.

A chi chu a kunga ala awm lai a, a chan  
tawh hnualh a zar thlakin an la thin. Chutianga  
lak hnu chuan ni hnih vel nisa a pho leh phawt  
tur a ni a, hetiang phoro a nih hnu hian thlathum  
vel a dahthat theih a ni.

A CHI KUITIAH DAN : A kuitiahna tur hmun  
leitha chhun pawn (Nursery Bed) ah thehdarh a,  
lei ha bawka pan taka vur leh tur a ni. Tin, nisa  
lutuk leh ruahtui tam lutuk ven nan hulhliap siam  
a, sethlam ang deuhin zar hlim tur a ni. Tichuan  
thla khatchhungin a lo tiak thin a. A tlangpuiin  
a chi hi za zelah 20 atanga 30, chauh a tiak thin a ni  
A kuitiahna hmun atanga a bul lei nen phun sawn  
a, dimte a phun sawn tur a ni. A kuitiah hun hi  
May atanga June thla a ni. Tichuan a knm leh  
June, July thlaah a phunsawn theih a ni. Char hi  
a thangduh em em a, kumthumah feet 10 laia sang  
a ni thin. Kum sawn velah chuan zai tham, Ply-  
wood a siam tham tak a niin a puitling hman  
em em a ni;

A PHUN DAN : Feet ruk inkar danah phun tur  
a ni a. A tualtona hmunah, Khuangthli nen a te  
ho thin avangin Char hmun siamnaah pawh  
Khuangthli nen an phun pawlh thin. Mithiam ten  
Khuangthli thing hian Char natna a veng theiin  
an hre bawka a ni. Theih chu nise, a khur laih a  
phun a tha bik a. Mahse leichhia a ngam avang  
leh khawi hmunah pawh a puitlin theih avangin,  
a khur laih hi a tul em em lo.

#### R O S E W O O D (Dalbergia)

Rose Wood hi Mizoramah kan uar ve loh  
avangin a hming kan nei ve lova, Rose Wood tiin  
kan sawi ve mai a ngai dawn a. India ramah hian  
hetiang thing chi hrang 40 aia tam a awm a. A  
rilnei a ni a, a ril hi a tha em em a. Thil tam tak



ah a tangkai em em a ni. Leionhia a ngam em em a  
luipui bul feet 4000 lai a sangah pawh a tha thei  
vek a ni.

A TANCKAINA TE : A ril ni Silai kawmah  
milem cheimawiah te, khum uluk bikah te pindan  
bang uluk bikah te an hmang nasa em em a ni.  
Thing manto leh hlu tak a ni.

A BORUAK DUHZAWNG : Himalaya tlang bul-  
thut, tuipui atanga feet 5000 lai a sangah te a tual  
to va, tin, lui bulah te a to a. Hmunzawlah ai  
chuan awihpang leh hmunawihah a tha duh zawk a  
Tin, a lei ngeih zawng pawh leinghot leh leikhak  
ah a tha duh bik a, tin, leimin tur a veng bawh a ni.  
Sik leh saah chuan kan Mizoram hmun hi a that  
duhna hmun tak a ni a. Tin, pangang leh a hrik  
in a ei chhiat loh ran, Sal thing te, Zairum thing  
te non an phun pawlh thin. Tin, kangmei a haw  
em em a, ransa leh ransa lakah ven an ngai a, a  
zikpui an peh chhum chuan a thi hlahu thei a ni.

A CHI LAK DAN : November thlaah a hnah a  
tlakawlh a, January thla chawhnu atanga February  
thla thlengin a hnah a lo chawr leh a. A par leh a  
hnah thar chu a chawr rual a, a par nghal mai  
thin a ni. Tichuan March thla tawp lamah a rah a  
chu zawngtah-te ang duhin a uai fur a, a rah  
hi nisaah ni hnih ni thum vel pho tur a ni. Hetiang  
a tih hian a tiak tha duh em em a ni. A kung  
bulah te a tiak thin a, tin, thliin a len chuan a  
kung atanga hmun hla tak takah a lo to thei thin  
a ni. Tin, a kuitiah dan chu lei chhupawnah lei-  
vungin pan taka vur tur a ni a. Kum khatah phun  
sawnin, a kum hnihnaah a par nghal a, a chi  
atan a tha a rah leh nghal mai thin a ni. A hmun  
hi thlawhfai chuan a thang duh em em a. Kum 7  
atanga 10 ah chuan a ril tha tak leh lian tak a  
awm hman ziah a ni.

## SANDAL THING

Hei pawh hi Mizo tawngin a hming kan neih loh avangin a hming pangngai angin Sandal Wood tih ye mai a ngai a. India chhim lam Mysore-ah te Madras-ah te, Bangalore-ah te a tualto a, he thing hi sawrkarin a control avangin a chin dan leh a tangkaina pawh hi sawidarh a ni vak ngai lo a ni. Sawrkarin thlai dang ching lova, he thing ngawt hi mipuin an ching ang tih an hlauh avangin, an Control a ni.

**A TANGKAINA TE :** Sandal Wood hian tangkaina a ngah em em a. A ril hi telrintui siam nan te, damdawi siam nan te, hai rintui (agar batti) atan te leh hmanrua uluk bik, in chhung bungraw siam nan te, sahbawn rintui siam nan te an hmang nasa em em a ni. Thil tam takah a tangkai em avang leh a hlut em avang hian khawvel a thing manto ber a ni. An hralh dan pawh a K.g. in an buk thin. A kungpui chauh pawh ni lo, a tangte te ah pawh a ril hi a awm theih avangin, a kung pum-pui a zung te nen lam a hralh theih vek a ni. Tin, a hnahro tha pawh bang leh kel chaw atan a tha em em a ni. Tin, a hnah hring hi rawng siam nan a tha em em bawh a ni.

**A BORUAK LEH LEILUNG NGEIH ZAWNG :** Tuipui atanga feet 1200 atanga 4000-ah a tha duh a, chu aja sang Salem District, Yercand feet 4500 a sangah pawh a tha duh em em a. Aizawl boruak hi a tha tawh chiah chiah hle a, ruahtui tam lam pawh a duh tawh hle ang. Tin, phaizawl ai chuan awhlan a ngeih em em zawk a. India chhim lam a, a tualtona hmun te pawh Western Ghats, tlangramah leh Tamil Nadu tlangram (Hill station)-ah te an ni hlawn.

Lei tha tak, leikhak, leime leh, leisenah a tha thei vek a, batu lelah erawh chuan a zung a zam darh tha thei lova a thi duh hle a ni. Tin, Sandal thing hnaih takah thing dang phun tur a ni a zung

a chak ion em avangin thing dang zung atangin chaw a lak thin avangin thing dang bul zelah phun tur a ni.

**A PAR DAN LEH A CHI CHHUAH DAN :** Sandal thing hi a hnah a tlakawlh ve ngai lova, mahse ruahsur tam lutuk lai leh khawro nasat lain a hnah a thawl leh a. May thla velah a hnah a rawn chawr na a, fur tui tlak nasat lain a hnah a thawl leh a. October thlaah hnahno thar a lo chhuak leh thin. A par hun chu February atanga April a ni a, a rah, a chi a chin tlak khawpin May leh June thla velah a chang thin.

A par chu a uk rawng a ni a, a rah chu a dum a. A thing hi kumthum leh kumli velah a par thin a, a chi pawh a chhuah ve tho va, mahse a kung naupang atanga a chilak chu to ve tho mahse a ril a siam that theih loh avangin, kum 20 chung lam a upa rah ngei lak a tha bik a ni.

**A KUITIAH DAN :** Balu leh hnah tawih emaw, ekdur emaw, tin khat leh tin khat hisap a, ngun taka chawhpawlh a, kuitiahna hmun chhunpawh bik (Nersery Bed) ah dah tur a ni a, tichuan a chi chu khap khat danah dah a, balu leh ekdur pawlh bawh a, pan te a vur tur a ni. Tichuan a kumhni naah phun sawn tur a ni.

### CHITHLUM THING (MAPLE)

Khawvelah hian Maple thing hi chi hrang hrang 150 lai a awm a. Khawvel a thing tha berte zing a mi a ni a. America khawmualpui hmar tawp lam ramah leh Europe te, Scandinavian ramah te a vawh lutuk avangin Fu a chir, ve theih loh va. Maple thing hi chithlum pai chi (Sugar Maple) a awm a. Tin, heni thing atang hian chini an thar ber thin. Tin, a thing hi a tha a, insak nan leh thutthleng leh inchhung bungraw siam nan an hmang nasa em em a. Canada-ah phei chuan, kawng engkimah an hmang tangkai nasa a, an ram ngaw zawng zawng te khu Maple awm lohna pakhat

mah a awm lo va, an National Flag-ah pawh Maple hnah an hmang hial a ni.

A kuitiah dan chu leitak leh hnah tawih emaw ekdir emaw chawhpawh a, lei chhunpawnah khat khat danah an dah a, leitha in pante vur tur a ni.

Tin, Maple thing hi chithlum pai chi ni kher lo a chi dang tam tak a awm a, a thing hi a that avangin, Far thing tih loah chuan, khawvawt ramah thing uar ber leh insak nana hman uar ber, thut-thleng, Almairah siam nan leh engkima hman lar ber a ni.

### THING - UK (IRON WOOD)

Mizo chuan thing-uk kan ti mai a, a chan em avangin sap ho chuan Iron Wood an ti hial a. A hma lama kan sawi, Tlawr thing, Sal-thing te' ai chuan a chang zawk em em a. Electric banah te Rel kawnga phahah te an hmang nasa em em a ni. Tin, insak nan te, bungraw siam nan te an hmang nasa bawh.

Assam, Lakhimpur-ah te, Meghalaya-ah te, Burma tlang ramah te a tualto a, Mizoramah pawh hian a awm bawh thin a ni.

A BORUAK NGEIH ZAWNG : Thing-uk hi hmun zawl ai chuan, awihpang ram ngaw, hmun hnawag ah an tha duh a. Ruahtui mamawh zawnng pawh kan zoram ruahtui tla nen hian a inmil tawh hle a, a boruak lum leh vawh zawnngah pawh a tha tawh hle a ni. Tin, leme leh leitha pangngaiah a tha duh a. India chhimlapi Western Ghats velah khu chuan balu lei hlangah pawh a tha duh em em a ni. Tin, dum-lei leh tlak-leiah chuan a tha thei lo a ni.

A HNAH TLAK DAN LEH A PAR DAN : Thlasikah November thlatir atangin a hnah a tlakawh a. February thla tawp lamah a chawr leh a. A hnah chawr rualin a par kuhmum a lo chhuak a, a par var rintui em em in a par a. A rah chu August atanga October thlaah a hmin a, kuitiah theih

á ni mai thin. A kuitiah dan chu, a hmun bik siam, leitha chhunpawna dah darh a, leitha vek a pan taka vur tur a ni. A tiak hlim hi a thang thei lo em em a. Kumhni hnuah phunsawn chauh tur a ni. Phun atanga kumsawm velah hman rua atan a hman theih a ni.

A kuitiahna tur hmun chu leitha, ekdur emaw hnah tawih emaw pawh a, chhunpawh bik (Nursery Bed) chu ngil taka rin khua a, a khua laiah chuan a chi chu khapkhath dan velah dah thiah thiah a, pan taka vur leh tur a ni. Tin, hetanga a kua bik siam lem loh pawhin, a theh pawh a tiak thei tho a ni. Tichuan kuitiah atanga kumkhat hnuah June, July thla velah hlam khat dan vela phunsawn tur a ni a. Kum sawm velah thawh thawh leh tur a ni.

A TANGKAINA TE : Insak nan leh bungrua, thutthleng, (Almairah)-te siam nan a lar em em.

#### THLANVAWNG (COMARI)

Thlanvawng hi thing lian ve tak, feet 100 lai a sang, teh kual a feet 16 te pawh ting thei a ni.

India ram chhungah, hmun hrang hrangah te, Burma ah te, Sri Lanka ah te a awm a. Tuipui atanga feet 4000 hnuai lamah a awm ber. Mizoram, Assam, Arunachal ah te a tha duh em em a ni. A HNAH TLAK HUN LEH A RAH HUN : January thla atangin a hnah a tla kawh a. March thlaah a hnah thar chu a par kuhmum nen a rawn chawrchhuak a, April thlaah a rah tan a, July thlaah a hmin thin.

Thlanvawng hian ni eng a mamawh hle a, daihlim pawh a tuar thei hle. Tui ting rengah a tha thei lova, chuvangin phaizawl aia tlangramah a tha duh zawk. Vur a haw lutuk lo bawh. Tin, a kung kih hun a, a bul atanga lo chawh leh (Coppicing) hi phun thar aia a tha duh mah zawk a ni.

Phun tirh kumah ramsa Sakhi, Sazuk te'n a hnah hi an pet duh em em a, an eichhé vek thin. Tin, Bawng leh Kel te pawhin chawah an rin theih avangin, thlanvawng huan chu hung zel a tha.

**A KUITIAH DAN :** Dan tlangpuiin a tual tona hmunah chuan a kung atang a, a rah tla to leh hi phunsawn atan a tha em em a ni. Tin a rah tla ramsa ten an ei an ekchhuah leh atanga to hi a tha duh bawk. A rah hmin tla hi lak tur a ni bawk A uk chauh lak tur a ni. A dum leh a hringte chu lak loh tur a ni. June thlaah chharkhawm a, ni 4 vel leiah phum phawt a, a mu tuamtu kawr kha a lo tawih anga, fai taka, a kawr chu tih fai a nisaah phoro tur'a ni. Tichuan a mu chu a lo khi anga, tichuan a kuitiahna hmun turah chuan dah ngial mai tawh tur a ni.

Tin, Plywood siam nan an hmang nasa em em bawk a. Thlanvawng huan an siamna chhan ber chu Plywood siam nan a ni ber thin. Tin, nawalh fung leh a bawm siam nan an hmang thin.

#### NGIAU THING (CHAMPA)

Ngiau thing hi lian thei tak ngilpur mai leh mawi tak a ni a. A hnah a tlakawlh ve ngai lova, a san zawng chu feet 100 ai a tam a tling' thei. Mizaram leihung hi a that duhna hmun tak mai a ni a.

Hmun hnawng a ngaina a, tuitling erawh a ngaithei lo. Ni eng a mamawh a, a thing hi a thang-chak em em bawk. Chuvangin Ngiau huan siam tute chuan damah an ching thin. Kangmei a haw em em a, vur erawh a haw lem lo thung.

**A CHI LAK DAN :** March thlaah a hnah a lo chawrno va, a par ngial thin. August thlaah a rah a lo chang a, a chi a lak theih ngial a, September thla hi a chi lak hun ber a ni. A chi chu mai tak a thenfai a, hmun ro, daihlimah dahro Phawt tur a ni. Karhnih chhung a kuitiah ngei ngei tur a ni a, a chi hi a nung rei lova, karhnih hnu ah chuan a tiak thei lo a ni.

**A KUBIAH DAN :** A kuitahna tur a siam lei chhunpaww bikah chuan hulhiap sethlam siam tur a ni a. A tiah awisam nan, buhpawl emaw di emaw a khuh tur a ni. Tin, a chi hi fanghmur leh sazu in an ei tam avangin thosikho tiemte a kufina turah theh hmasak tur a ni. Tichuan ni sawm atanga ni sawmpstiah a tiak thin a, chutia a tiah veleh chuan sarangpiah sawn tur a ni a. Kum'hta upa a nihah emaw a kum leh June, July thia veleh sarang mawng chu thipaww vek in, a sarang chawp chuan hlambhat danah phun tur a ni a. Khuangthi nea a phun pawhin, natna hrik iakah a vang thei a ni. Kumaga, hnuah thawlh thawl leh tur a ni.

**A TANGKAINA TE :** Ngiau thing tangkaina hre lo zofate kan vang hle ang. Mahse mi ramah chuan, insakna leh hmanrua a hman mai bakah Plywood, siati nah an hmang nasa em em a ni. Zoramah, phehi hi chuan a that duh em avangin, Plywood, factory siam nan a hlawhtling lehzual ang.

### **HRIANG THING (Airus Nepalensis)**

Hriang, hi chi tam tak a awm a, tuna kan han sawn tur, hi chu Hriaangpui a ni a. Thing lian tak a ni a, feet 100 atanga 150 lai a ting thei. A len zawng pawh hawhlhlangin feet 6 atanga feet 8 lai a ni thei. Kum sawm chhungin feet 50 a sang a ni thei a ni. He thing hi hmun-zo bawm a ni a, zoramah pawh hian a tha duh em em a ni.

**A TANGKAI NA :** Mizo ziangah hi chuan, Hriang thing tangkaina hi a lar lo hle a, insak nan leh hmanrua siam nan a that bakah, a thing hnah leh a, kang tawih hian lei a titha a. A tiak duhin lei chhia a ngam bawh a. Chul ramah te theh ila, ram a ti tha in a thing a lian sara a. Tin, leimur tur a vang bawh a. Mizoram tan thing tha tak a ni thei ang.

## **FAR THING (Pinus Coniferae, Fir)**

Far thing kan tih ang hi khawvelah chi sang tam tak a awm a, a vaiin kan sawi seng lo ang a, kan ram vela awm thei te leh a tangkal dan sawi mai ila.

Far thing hian tangkaina a ngah em em bakah a kung mawi hian mihring a tihlim thin awangin khawvelah thing hlu tak a nih phah leh zual.

**A TANGKAINA TE :** Far thing a kung lian than-kin tawh kum sawm atangin a pil khawhin an hnai a, tarpintel-ah te an thlifim a, thlitfima nawi chu Sathau khawnvarah te leh bamdawi siam nan te an hmang leh a. Tin, a ril a, hriak awm an er chhuak a, Sahbon siam nan te, damdawi siam nan te an hmang nasa em em bawk a ni. Tin, heng bakah hian insak nan leh chhuatphah thuahah a ril hi an hmang thin. (Sap ramah chuan cement chhuat hi thingphelin mawi takin an phahthuah thin) Far Kung Khawvela Lar Zual Deuh Deuh Te :

1. Maritime Pine : Hei hi khawluma to thin a ni a, Mediterranean tuipui kam vel, balu leiah a tualto a. Hmun vawtah chuan a nung thei lo. Leitakah a tha duh lo bawk. Tarpintel atan an hnai nasa em em a. A thing hi hmanraw siam nan leh insak nan an hmang nasa bawk.

A kung len lam chu feet 70 lai pawh a tling thei a. A kung leh a hnah chu henglai a, Far thing lian chi pangngai ang hi a ni.

2. Sugar Pine : Hetiang hi United States leh Canada-ah chuan a lar em em a, a kung a mawi bakah, Maple thing angin tuithlum a pai a, nipui thawk tantirhin a kung verhkuakin, a tui an dawh a, chini siam nan an hmang bawk thin. Tin, a thing hi a chang tha in, bungraw siam nan te, in sak nan te a ngil thia bawk a, an hmang nasa em em bawk a ni. Origen leh California velah a tualto a, chutatang chuan an la darh a, Mizoramah pawh



hian a tha duh hle ang. A kung hi feet 250 laii  
a sang thei a, a len lam chu feet 4 hawhltlang te a  
ni a. America rama Far thing lar ber leh hman  
tam ber a ni.

3. Monterey Pine : He far thing hi khawvawt leh  
khawlumah a tha duh ve ve a. A kung san lam  
chu feet 190 atang feet 200 a ni thei a, a len lam  
chu hawhltlangin feet 6 feet 7 lai a tling thei a,  
a thang duh em em a. A hnah vurin bawhkhat flat  
mahse a than a thu chuang lova, kum ngaah feet  
20 a sang a ni thei a, a tlangpuin kum 50 a dam  
thin a. Kum 7 na velah a kung atanga hriak an  
la tan a, tin, zaitham a ni bawk thin. Hetiang far  
thing hi khawvela darh zau leh lar ber a ni.

4. Douglar Firs : Douglar Far thing hi khawvela  
Far kung sang ber a ni hial awm e. A puitling chu  
feet 417 lai a tling thei a, a len lam chu hawhlt-  
langin feet 12 a tling thei bawk a. Hetiang Far  
thing hi chu ram vawtah an tha duh bik a, an  
hmuhchhuahna chu British Columbia-ah a ni.  
Alaska-ah te Vancouver (Canada) ah te a tualto va,  
tichuan Europe khawthlang lamah leh, New Zea-  
land Australia, South Africa ram ngawah te a tual  
to bawk a. He far thing hi a tangkai em em a. A  
ril atang a hriak an lak chhuahin damdawi siam  
nan te Plywood siam nan te, insak nan te, lehkhap-  
puan siam nan te, pheikhawk-ke-artui atan te,  
bungraw siam nan te a tha em em a, a kung hi a  
tha duh em em bawk a ni. Kan zoram boruak sik  
leh sa te leh ruahtui tla te hi, a ngeih tawk hmel  
a, tin, Champhai, Chalfih leh Tawi-tlangah te  
phei chuan awlsam takin a puitling ngei ang.

Hetiang thing chi (Pines leh Fir chhungkuaah)  
rau rauah pawh leichhe ngam ber leh, tih-nun  
awlsam ber a ni a. Balu lei atanga lei-me leh  
lei-khak, chinai leiah te a tha duh em em vek a.  
Tin, a chi hi a tiak duh em em a, a kung atanga  
tla hi a tiak nghal a, kui-tiah hranpa ngai lovin,

a kung huai a tiak te chu, serang-ipah an, dah ngah mai thin a ni.

5. **Corrian Pine** : Hetiang Far thing hi Corrica, ram leh, Italy chhim lam, Sicily rama tualto, chuta tang a lak darh chu a ni a. A kung san lam chu feet 150 vel a ni a, a len lam chu hawh tlang-in feet 5 a thing thei. A thang chak a, a kung a nungdahin leichhia a ngam a, chuyang chuan mun an ching uar em em a ni. Far thing dang ang bawkin, insak nan leh bungraw siam nan bakah lehkhia puan siam nan an hman tangkal om em bawk a ni.

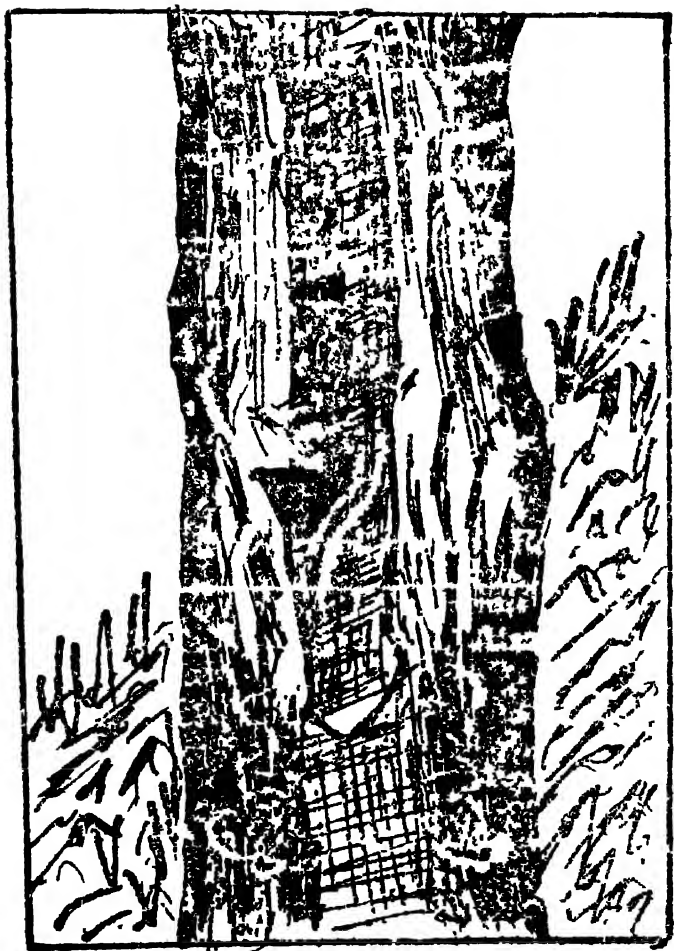
6. **Silver Firs** : Silver Firs hi chi 50 ai a tamin an then hrang leh a. Asia ram, Himalaya tlang bul thut leh, Africa hmar lam leh America hmar lamah te a tualto a, a kung zuih mawi em em mai chuan mit a la a, a thing tangkain a amahin a mawna hian duhna a tizna a, Khawvel hmuntinah an la darhta a ni. A dam rei em em a, kum 700 la a dam thei a ni. Far thing dang ang bawkin insakna hmanrua atan leh thungrem. Almairah siam nan te an hmanang thun bawk.

A kung san lam feet 150, vel a ni thei a, a len lam chu hawh tlanga, feet 5 te an ni hlawn. Hman vawt bawm a ni a, Mizoram boruak hi a ngah tawh chiah a ni.

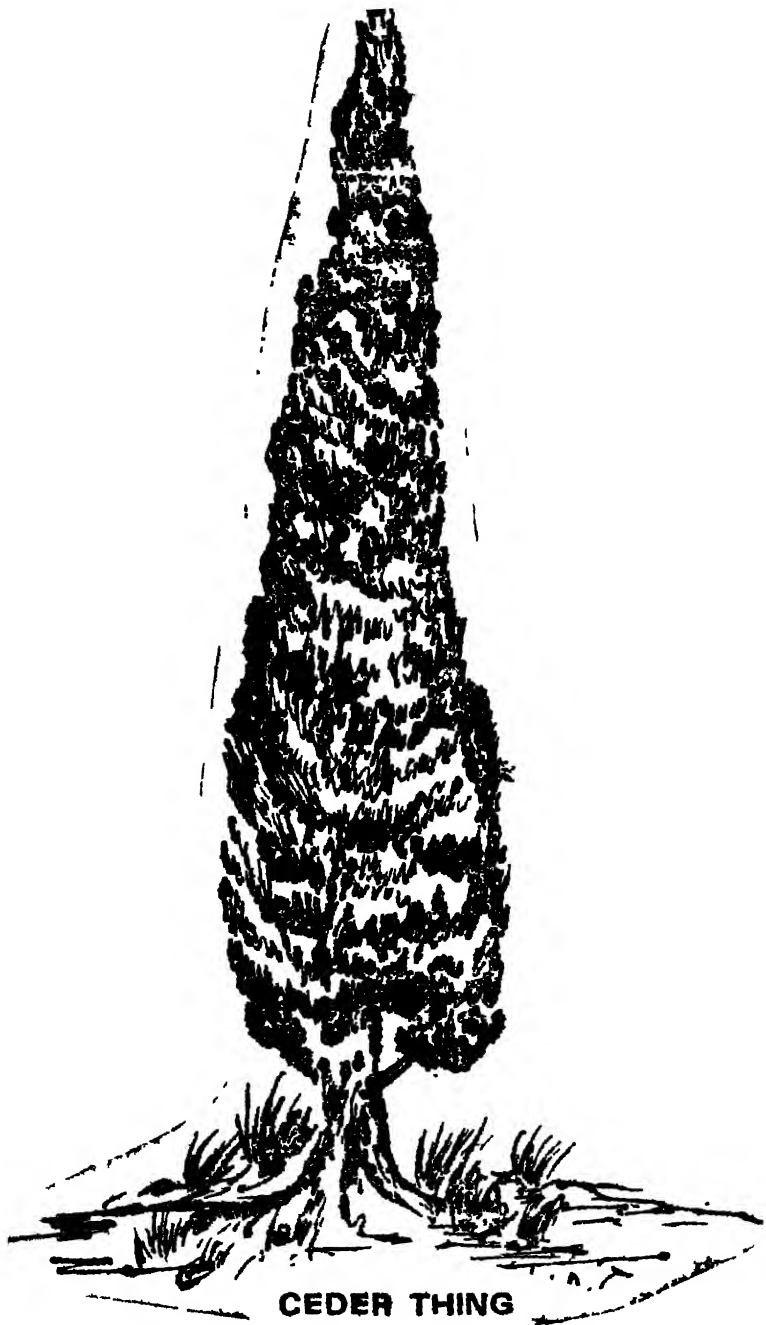
### CEDAR—THINGTE

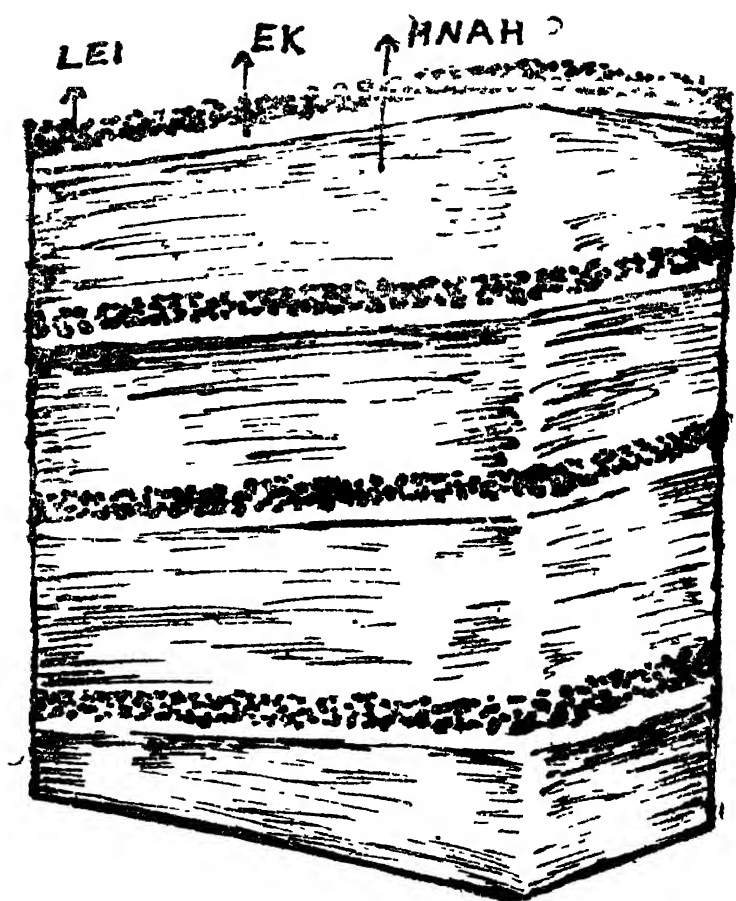
Cedar thing hi chi hrang hrang sang tam tak a awm a, kan ram thingto a pu ve loh avangin a hning hrang kan nei ve lo bawk a, far thing kan ti vek mai a. Khawh tlang lam leh ram vawiah chuan ngaw siam nan an hmanang lar em em a, a thing hi a tha in a mawi a, Hmanraw tinreng leh insak nan an hmanang lar em em a ni.

**Port Oxford Cedar (Lawson Cypress)** : America chhim tlang lamah a tualto va, Oregon leh California velah ngawdur pui pui siam nan an



FAR THING ATANGA TARPINTEL  
LAK CHHUAH DAN





LEITHA SIAMCHAWP DAN



PANGPAR / THING KAWLAWM DAN

hmang baw k a, a leilung leh boruak ngeih zawng chu kan ram leilung leh boruak hi a mil taw k chia h chia h a. Leichhia a ngam a, a thangduh em em baw k a. Hrik leh rannungin a eichhe ve ngai lo va. A kung puitling chu, feet 200 lai a tling thei a, a len lam chu hawlhtlangin feet 10 lai a tling thei. A thing hi a zang em em a, a tlo baw k a. Motor body sak nan te an hmang tengkai em em a. A nungduhin a chi a tiak hma a, khawvel hmun tin-rèngah an la darh nasa em em a. India ramah chuan Meghalaya, Sikkim, Tamil Nadu-a Sheraroy Hills (Yescand) ah te, Kodaikanat-ah te leh Nilgiri Hills-ah te an ching nasa em em a ni.

Nootka Cypress (Alaska Cedar) : Alaska leh Oregon (USA)-ah an tual-to va, ramngaw zaupui an siam a ni. A hma a kan sawi Port Oxford ain a te a, a kung puitling chu feet 180 vel a ni a tin, a kung len lam chu hawlhtlang a, feet 7 vel a ni. A thing hi a eng a, a rintui em em baw k. A tlo em em a, lawng-sak nan leh bungrua siam nan an hmang thun.

Hinoki Cypress (Japanese Cedar) : Japan ram atanga lak darh a ni a. A thing hi a thair a rintui em em a. A kung puitling chu feet 120 vel a sang a ni a, a len lam chu hawlhtlangin feet 5 vel a ni thin. Leidawh nan te, thutthleng leh bungraw siam nan te, motor-in (Truck body) atan an hmang nasa a, a kung hi a mawi em em baw k a ni. A thing hi a than chak loh em avangin a lar em em lo a ni.

Sawara Cypress : Hei pawh hi Japan ram a tual to an lak darh a ni a, hinoki ang a ni a, a len lam pawh a intiat vel a ni. A hnah chuan a hring eng lam a pawl mah mah a, tin, a hnah a sei baw k a. A kung hi a than duh em avangin a lar hle a ni. A thing chu a uk a ni a, a tle mawi duh em em a. Chhuat thuah nan te an hmang nasa hle a. Tin, bungrua (furniture) siam nan a lar hle baw k a ni.

Farmoon Cypress : Chira ram atanga lak darh a ni a. A kung san lam chu feet 174 vel a sang a len lam hawlhtlang a feet 6 vel tling thei a ni. Amherawh chu a to-na ram China (Tai-wan) pawnah chuan a kung hi a thang sang thei lova chuvang chuan, a thing hman atan nilo, in leh a vel (Compound) cheimawian an hmang ber thin. White Cypress : Hetiang Cedar thing hi, khawvel a lar ber pawl a ni a, ramlum leh vawt a ngaithei a, vur a haw lo bawk a. Arab ram atangin America chhim lam thlengin a tual-to va. A kung san lam chu feet 120 vel a ni a, a len lam chu feet 6 lai hawlhtlangin a ni thei. A thang duh em em a, a thing hi a rimtuiin a mawi em em a, a tlo em em bawk a ni. Insak nan te, bungraw siam nan te leh , electric-banah te an hmang thin.

A chi a tiak duh em em a, phun-nun a awl-sam bawk a, leichhia a ngam em em bawk a ni. Hemi'vang hian a lar leh zual a ni.

Italian Cypress : Mediteranian tuipei kam vel a, feet 170 lai a sang, a hringduk, rawng mawi em em mai, a ding thluah mai chuan khawvel a timawi a. Cedar thing rau rauah chuan, a te pawl a ni a, a kung hi a zen em em a, tin, a rim a tui vak lo. A thing hi an hmang tangkai lutuk lo. A kurg mawina hi a lar phah zawk a ni.

Arizona Cypress ; A hnah hi a hringdal lam deuh mawi em em a ni a. A kung puitling san lam chu fee 75 vel a ni a. A len lam chu feet 4 hawlhtlang a ni. A ril atangin hriak an la chuak a, tel rimtui siam nan te, sahbawn rimtui siam nan te an hmang thin a. A thing hi a chang vak lova, Plywood siam nan te an hmang thin. A kung mawina leh a thing rimtuina, a hriak te hian, a lar phah a, Europe-ah leh America khawmualpuiah an ching uar em em a ni.

Bhutan Cypress : Himalaya tlang bulthut vel Bhutan-ah leh Sikkim-ah te-a lualto va. A kung



san lam chu feet 150 vel a sang a ni a, a len lam chu hawlhtlangin feet 13 a lian te a ni thin. A thing rim hi a tui em em a, a ril hian hriak a pai tam a, a hriak atang hian lu-a thih chi sahriak siam nan te an hmanang nasa a, tin, bung-raw siam nan leh insak nan te, pheikhawk ke-ar tui siam nan te an hmanang thin. A thung hi a thang duhin a dam rei em em a, kum 500 lai a dam thei a ni.

A thing tangkaina te hi a tam avang leh phun nun a awlsam avangin leh a thang duh baw k a, ei a tling hma baw k a, khawvelah an la darh nasa em em a, Europe khawmualpuiah leh Americaah te an ching uar em em a ni.

## BUNG - 5

### BUH (RICE)

Buh ei hnam kan nih avangin, buh ei khawp thar hi kan ram leh hnam tan tihmakmawh a ni a. Kan eitur pawh tharchuak thei lo. kan nih chhung chuan, ram leh hnam zahawm engtikah mah kan ni dawn lo a ni. Hetiang chuan kan zahawmna hi a tlahniam zel a ni.

Buh hi chi hrang tam tak a awm a, a vaiin kan sawi seng lovang a. Tlangram a tha duh chi leh hlawk duh chi chauh sawi mai ila. Tin, buh kung enkawl dan leh kuitiah dan hi eng buh pawh ni sela, a inang deuh vek mai a, natna a vei dan leh a thar hlawk nan a, leitha pek dan erawh a buh a zir in a danglam thei a. Mahse kan zoram boruak leh a leilung hi a that em avangin, leilet tharah phei chuan buh a that duh lutuk avangin a tlu chhe duh em em zawk a ni. Chuvangin leitha pek hi a tul tak nain uar vak a tul lohna lai pawh a awm ngei ang.

(1) **BUH KUI TIAH DAN** : Buh kuitiah hi uhk a ngai hle a. A kuitiah dan chithar International Rice Research Institute Manila-a an hmuhchhuah dan chuan, buh kuina tur hmuñ kha cement-in an zut mam hmasa a, tichuan leitak leh leitha chawhpawh dip chi inches 2 vel a chhaha dahin buh chi chu a chhungah theh tur a ni. A hnuai cement a zut mam a tulna chhan chu, ruahtui tlak tlem kumin emaw rokhawlhna dang a awm in emaw buh phun sawn theih lawk loh vin, cement-ah chuan buh tiak chuan zung a kaih thei lova, buhin chang a chhuah lova, phun sawn atan a tha tho a ni, upa deuh mahsela, Cement-a zut mam loh erawh chuan, a hnuai leitakah buh tiak chuan zung tak a lo kaih a, buhin chang a chhuah tawh chuan phun sawn atan a tha lo duh hle a, buh kung a than theih loh bakah a vui a te vek thin. Chuvang-in buh kuitiahna hmun chu chutiang chuan anti thin

Tin, buh chi chu theh hmam damdawi Organ-  
omerial a tih thianghlum nisela, buh chi tin khatah thirfian nga vel dahin, puan a tuam hnan a sawi pawh vakin a tha a ni. Buh chi thehin penthum bialah nobengnei thum ai a tam theh loh tur a ni.

Buh kui hun hi April thla tawp lam leh May thla chawhma lamah a hun a, tichuan fur tantir nang hmanin tui lak kher ngai lovin a tha zawk em em a ni. Amaherawh chu thlasik lai ruahtui tlak loh lai a nih chuan tui-lak emaw tui leih ngun hle a ngai thung. Tui lakna nen a tangkawp a buh kuina siam chuan thehtawp a, kuina tur lei chu daikawi hmasak tur a ni a, hmunzawlah ngei ni sela. Tin, tui chim reng tura buh kuina hi siam a nih chuan, buh chi chu tuih chiah hmasak tur a ni a, tichuan a tiak tur a uingho thlenga chiah ni sela, tichuan a kuina turah chuan theh tur a ni. Tin, a tui chimtu chu pan tak a dah tur a ni a, ni li hnuah tui chu pek chauh tur a ni a, buh to-  
than a zir a tui chu pek tam tial tial tur a ni.

Buh chi hi kuitiak hmasa lova, theh emaw, tuh emaw pawh a tha duh em em thova, buh thar tam chi-an pawh an uar ve tho a ni.

Buh chi chut a tiah atanga ni 5 hnuaah zung a kaih ngheh a, hemi chung hian a ei chhetu ran-nung leh nava ten an tihchhiat loh nam ven uluk a ngai a, natna hrik laka ven nan Curbaryl dam-dawi hmanga kah a tha.

LEILET KUATSAH DAN : Leitha siamchawp emaw leilet bial khatah tin sawm vel pawh a, ngun taka lehphut tur a ni. Buh phun hma/tuh hma in emaw lei chi vawi thum tal leh-hnan ni sela, buhia a ngeih bakah hnim tamtak a tihbo theih avangin a tha em em a ni. Buh phun hma karkhat emaw, ni sawm hmaa a phunna tur chu peihsa a tur a ni. Tin, bial kotlang pawh tui a relhruk theih loh nan uluk taka siam tur a ni. Bial khata leitha NPK pek dan tawk tur mitthiamte rawn a, leh hnan emaw daikawi hnan tur a ni.

A PHUN SAWN DAN : Buh tiak chuan a hnah-pui 4 atanga 5 a rawn chhuah vele phunsawn tur a ni a. Dan naranin fur lai chuan, a chi theh atanga ni 20 atanga 25 velah a ni thin a. Thal lai atan chuan ni 30 atanga ni 40 a ni thin. Hemi hun chung hi bawhpel loh hram nise a tha. Buh phunsawn a hnah chu tan tur a ni-a. Bi khatah zai hnih zel dah tur a ni. inches khata thukin Phun tur a ni. Tichuan tlar fel taka phuh ni sela, khap khat dan zelah phun tur a ni a, a tlar inkar chu inches 9 (khap khat aia tam deuh) ni sela, tin, thal lai a phun a nih chuan chu aia tem a zing deuh va phun tur a ni.

BUH CHAWM LEN DAN : Fur buh emaw, thal buh emaw, buh thar hma leh thar tlai tan pawh a vui insiam tantirh laia leichi Nitrogen pekin buh rah a hlawk duh em em a, dan tlangpuiin bial khatah no bengnei emaw dutno emaw 8 vel

pek tur a ni a. Buh vui insiam tan hriat nan chuan  
 buh thar hma chi a nih chuan a zik kha phu  
 atanga ni 30-ah kheh chhinin a vuirawn insiam  
 tur tur chu kut-chang khat chen vei a lo nua n,  
 leitha chu pek vat tur a ni a. Buh thar tai tan  
 erawh chuan a peng tur arawn insiam tanturhah  
 pek tur a ni.

**RANNUNG LEH NATNA LAKA VEN DAN :** Buh  
 phunna tur emaw tuhna turah khan bial khatah  
 thosihlo (DDT/3HC) dutno 4 vel phul chhuah veka  
 leh-hnan ni sela, tlumpi leh rannung dang, buh  
 zung ei chhetu lakah a veng thin a ni. Tin, natna  
 dang lak atanga vengtu atan buh tiah atanga ni  
 15 hnuah Zinc Dithocarbonate bawh hian a tum  
 hnihna atan ni 35 hnuah kah leh tur a ni. A tum  
 thumna atan buh vui tur insiam hun lai vela kal  
 leh tur a ni.

**BUH THAR TAM DAN :** Leilet tharah leh leitha  
 pek dik loh vangtein buh kung leh hnah tha  
 hluam hluam siin buh rah a hlawk lo thei flat a  
 ni. Hetianga buh a awm chuan buh vui tur in-  
 siamah a hnah zawng zawng kha a vui chawitu  
 pahnih chauh zuah a, phih thlak vek tur a ni.  
 Tichuan a vui chu a lo lian ang a, a kung chu  
 tawnkhawm tur a ni bawh. Tichuan a kung chu  
 a thu lovang a, buh rah chu a pum thain a hmin  
 tha duh em em a ni.

Buh hi a vui chhuah atanga ni 30-35 chhungin  
 a seng theih thin a, hmun thuma thena hmun hnih  
 a vui tawh chuan a kung la ro kher lo mahse  
 seng vat tur a ni. A seng hun pelha seng chu,  
 a den hunah a sawm duh a, a hlawk lo a ni.

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## BUNG - 6

### TLANGRAM LO NGHET NEIH DAN THAR

Tlangram lo neih dan thar hi, ram awih a, terrace lai lova, lo nghet neih a ni ber mai a. Terrace laih hian lei chunglang hang tha kha a chhiat thin avangin, a tih tui leh, hun a duh rei a, lo neitu te beng a thlopin, an tuiloh phah rin mithiam ten an hriat avangin, tlangram lo nghet hi a hlawhtling hmam a awlsam em em a. Khaw-chhak lam ramah te khi chuan an uar em em tawh a ni.

**A LEILUNG BUATSAIH DAN :** Ram kha vah hmasak phawt á, thingbul lian te chu kar hmasak a hal fai vek ni sela. Hal loh chu duhthusam a ni takna in, thingbul lian karpawng te a harsat leh a hautak lutuk avangin hal chu a awlsam zawk a, kan zoram lovah hun pangngaiah vah a hal tur a ni a, Lo hal hian lei tha a fir kha (Virgin Soil) a tihchhiat thin avangin halna hnuah khan Bekang (Soya Bean) kum khata vawihnih thar turin an ching hmasa a, bekang vawihnih chinna hnu lei chu a lo thar tha leh (Virgin Soil) thin a ni.

Tichuan hal fai kumah chuan leitha chi thing Japan zawngtah, thingkha (a te chi) Dwarf Variety emaw feet 20 danah tlang tan zawnga khap khat dan lek leka phun tur a ni. Thing chu ngil taka phun thap ni sela, a kum hnihna atang chuan a hnah sahthlak a, leiah chuan dah darh a, lei cheh phut hnan tur a ni. Tichuan thinghnahte chu lei thaah an chang a, leitha dang hmang lovin, leitha (Organic fertilizer) a ni nghal a, buhin a ngeih em em a ni. Tin, tlang tan zawnga ngil taka thing phun kha leitha kal ral tur dangtu (Contour binding) a ni nghal bawh a ni.

**BUH TUH NA BUATSAM DAN :** Leitha thing chu March thlaah rual tika tanchhurn tur a ni a, a hnah chu dah darh a, lei chehphut hnah tur a ni. Tichuan buh tutt hnah a lei chu a lo tui tawh ang a, buhin a ngeih em em a ni. Sawi tawh angin bekang chinna hnuaa a kum khatnaah a la ngai love, a kum hnihna atanga tih tan tur a ni.

Tin, hetiang tlangram lo neih hian kuh chauh ni lo, chhawchhi, sawthing, saklum leh thlai dangte chin nan pawh art hmang uar em em a ni.

**TLANGRAM LO NEIH HLAWHLENNNA :** Khawvel hnam tin hian hnam dan (Cultural Background) pi leh pu atanga inthlah chhawn hi kan thisen kalah hian a bet flat a ni tin mthiam-ten an hmu chhuak tawh a. Hetianga tlangram lo neih pawh hi kan Mizo mizia nen a inmil a, thlamte pawh sa a buh kara thlai, vaimim, lengser, anthur-ten, kan pi leh pute tih dana kan tih ve phawt chuan a hlawhtling ngei ang.

### LEITHA SIAM CHAWP DAN

Mihring kai lo pung a, leitha mamawhtu kan lo tawh tawh a. Tin, hetiang leitha siam chawp (organic fertilizer) hman hi lei a lo vin a dur tha reng thei a, damdawi nen a siamsa (chemical fertilizer) aini a wenso a flem bakah hetiang leitha siamchawp hian Potassium, Nitrogen a kang tel vek thei a, hisap buai ngai lovin, a hman ngah a awlsam bakah a hman ngah mai theih a. Hman tam lutuk a, thlai emaw pangpar emaw an thih a hlawhawn ve lo bawh a, awlsam takin, tin khat leitha siamchawp leh leitak tin khat chawhpawhin a tawh em em thei a ni.

**A SIAM DAN :** A hmasa berin lei pen ruk biala zau, tawng ruk vela thuk jaih a, hnah leitha chang thei chite dah tur a ni. Chung hnachte chu : (1) Tlangsam hnah (2) Nihawi lem hnah (3) Japan hlo hnah (4) Thingha hnah (5) Japan zawngtah hnah (6) Zawngtah hnah.

Malkhawmin tawng khat vel a chhah a, dah a, a chungah Vawk ek emaw Bawng ek emaw, kut-phah chen vel a chhah a dah a, chu mi chung leha chuan leitak feet chanve vel a chhah a dah leh ni sela, chutiang hlir chuan, chhawng li chhawngnga lain a siam theih a. Tichuan nikhat danah tui hneh tak a leih tur a ni.

Tin, a chung a kan sawi thing hnah te khi hmuh zawh loh chuan eng hnah pawh a tawih thei chi chu a tha em em vek a. Tin, Arek hi, hetiang leitha siam nan hian a tha ber a, a chhan chu, Ar ek hian, thir lam (mineral) a pai tam bakah al (caustic soda) a tel tam bawk a. Tichuan thinghnah ei tawih tu (bacteria) a tanpui a, leithatna a siam hma a, a ti tha thei em em bawk a ni.

Tichuan leitha khur chu thla hnih chhungin hman theihin a lo tui ta thin a ni.

A khur laina hmun neih loh chuan, kil linei a thing phun a thing tuai emaw thing phel tan-chhum emaw a, a khamphai zawnga tawn emaw kilh kual tur a ni a, tichuan, hnah leh ek dah chhawn chu tla darh lovin dawl tur a ni.

Tin, hetiang leitha siamchawpa hian rannung leh changpat te a awm duh avangin, hman hman thosihlova theh hmasak tur a ni.

### THLAI LEH PANGPAR EI-CHHETU RANNUNG LAKA VEN DAN

Thlai leh pangpar te ei-chhetu rannung te hi, Phengphehlep atanga piang pangang te leh The-reng atanga piang, Vual te, Maimawm kan tih ang te hi an ni ber a. A hun taka damdawi emaw, damdawi siamchawpa enkawlin tihral an awlsam em em a ni.

PANGANG THAHNA DAMDAWI SIAM DAN :  
Thosihlo (BHC or DDT) te hi Pangang leh Phengphehlep, Vual, Maimawm te hian an haw em em vek a, pangparah chuan a hman chu hle a, amah-

erawh chu thlai ei chi-ah erawh chuan mihring  
 takse take pawl thei natna, ~~hacible hinh~~ a siam  
 theih avangin thlai hnah leh a reh ei ~~chah~~ chuan  
 rannung ven nan chuan siamchawp hman a tha.  
**A SIAM DAN :** Vaihlo a ro a nih ~~chuan~~ thum  
 khat leh insukna sabbon (chhangphut) var mum  
 bial hi hmun liah then a, hmun khat nen tui no-  
 bengnei (Y.M.A.NO) sawmpahnih nen Belah  
 chhuanso-va, sahawn ral theng a chuan ni sela,  
 tichuan tui pangngai no-8 pawlh leh in thlai kung  
 kah tur a ni. Tin, Vaihlo hnah hi a ro a awmlon  
 va a hnah-hring hman dawn chuan, hnah  
 sawmhnh chhuan tel tur a ni.

Tin, hetiang damdawi siamchawp hi thlai zung  
 -in a huat theih avangin kah lai chuan sarang  
 emaw lehkhakhawng emaw, thlai-bulah chuan,  
 damdawi lei-a kut tur ven nan dah tur a ni.  
 Tichuan thlakhat danah kah tur a ni.

Tin, he damdawi siam bak-ah hian Malathion  
 damdawi hi mihring tan a hlauhawn lova, thlaiah  
 pawh hman a pawl lo. Tin, pangpar leh ei-loh  
 chi atan chuan thosihlo hi hmuah a awlin a tha  
 ber a ni.



## BUNG-7

### PANGPAR TIH-RO DAN

Pangpar ngaina mitem englai pawha pangpar  
 hring, inchhung ti mawitu leh chei nan, neth a lo  
 harsa a, tin, pangpar hring englaipawh a khawi  
 tur a lo vang-in pawisa a hek a. Chuvang chuan  
 pangpar a rawng tichhe lova tihro hi mithiam ten  
 an hmuah chhuah atangin a lar ta em em a, a awl-  
 sam em bayk avangin, thetrel leh puan-mawi hma-  
 nga pangpar lem siam pin ngaihkhut a klawh a ni.



Pangpar ro hi, inchhung chei nan chang ni lo, Calender chei nan te, Christmas Card leh Card dang dang chei nan te a mawin an hman lar em em a ni. Tin, Christmas pangpar (Christmas Tree) siam nan te an hman bawh thin.

Pangpar tihro tur chu a vul lai tak a ni tur a ni a, a vul vanglai pel tawh hman tur a ni lo va, a rawng a uk-chhe vek thin a ni.

A BUATSANH DAN : A hmasain thingrem phui em em in, feet 4 bial vel a siam tur a ni a, Balm leh Borax damdawi 1:50 a pawh-in thingrem mawngah chuan inches 8 vel a chhah a dah tur a ni a. Tichuan pang par tihro tur chu thingrem mawng lam hawin inches 4 kar danah dah a, balu leh damdawi pawhsa chuan pan-tak a vur den den tur a ni, pangpar tihro tur chu a kuang rawram loh nan a kuang chhungah thirzai tereuh te dah hmasak nisela, tichuan a pangpar ro hnuah a kung chu chhum mai lovin thirzai chuan a tichak ang a, tha takin a khawi theih thin a ni.

Pangpar tihro tur thingrema remfel thlap hnuah phui tak a chhin tur a ni a. Eng hmu miah lovin dah vang vang tur a ni. Tichuan ni 10 atanga ni 35 thleng a pangpar chhah dan azir a dah tur a ni a, tichuan thingrem atanga pangpar ro lak chhuah chu nisaah darkar khat vel pho leh in, a hrin lai a, a rawng ang chiah kha a ni thin a ni. Pangpar chhah chi chu thingremah dah-rei deuh a ngai thin.

Tin, a damdawi pawh dan kha a rawng a zir a, borax-chu tih tam deuh tur a ni. A par eng leh sen-no te chuan a damdawi sawitak ang kha a tawh chauh thei a, mahse a senlar, senduk leh a pawlduk te, Violet rawng te tan chuan tih tam deuh hlek tur a ni.

Tin, Borax damdawi hi hmuah zawh loh chuan Silicagel emaw Salicylic Acid pawh a hman theih tho va, a pawh dan pawh 1:50 tho a ni. Hemi

1:50 tih awmzia hi a let sawmnga zel tihna a ni a, entir nan Borax nokhatah balu no sawmnga zel pawlh tur tihna a ni. (Borax no 1: balu no 50)

## BUNG - 8

### CACTUS

Cactus hi chi hrang tamtak a awm a. A tlang-puiin hling a nei deuh vek hlawm a, tin, hling nei lo chi pawh chi tam tak a awm bawk a. A par mawi em em chi te, a kung bawr mawi tak tak te an ni a. A kung chi hrang hrang India rama kan neih te : -

1. EPPHYLLUM (Star of Bethlehem) : Zan dar 10 velah a par var tlema uk deuh, a chhung sen-no rintui em em mai a ni a, zing lam dar 2 velah a par chu a vuai thin. A par chhunga rawn chawrchhuak hmawrah arsi ang tak a awm a, nei hian a ti mawi zual a ni. Tin, hetiang par tho, a senno chhuna par chi hi a mawi ber a ni.

2. ZYGOCACTUS (Christmas Cactus) : A par sen mawi tak, Bethlehem par aiin a te a, a kung pawh a te a, hei pawh hi mawi tak a ni. Christmas laia a par vul thin avangin Christmas Cactus an ti thin a. Mi thenkhat chuan lawmthusawina par tiin an lam bawk thin.

3. RHIPSALIDOPSIS (Easter Cactus) : Arsi angin a par kak siar a, a uaithla zawngin a kung a awm a, a par chu a er chho leh a, a sen mawi tak leh a var chi a awm a. Isua thawhle (Easter) lai in a par thin a, chuvang chuan (Easter) Cactus an ti a ni.

4. ASTROPHYTUM (Star Cactus) : Hetiang chi hi, Arsi Cactus an ti a. A hnah chu bawlmum angin a bial a. A hling chu arsi angin a kak a, hring mawi tak a ni.

5. **APIFYTIC CACTUS** : Hetiang hi chu, leia a to hnuin thingah a zam a, hnah mawi tak tak a chhuah thin. Chang a nei a, a chang atang chuan zung a lo chhuak a, a zung chuan a kung zamna chaw chu a hip lut thin a ni. Tin, thingro kungah te pawh azam thin tho a ni.

6. **HUERNA PENZIGII** : Hei hi Mizoramah pawh hian a tam hle a, a tualtona hmun ni ve awm tak a ni. Mizo chuan Chawng tin kan lam thin.

7. **CLEISTOCACTUS STRAUSII** : A kung chu Chawng kung ang tak a ni a, a par dan chu a chhipah a senin hmul ang takin a rawn sen chhuak tup thin a, hling tam tak nei a ni.

8. **MAMILLARIA PARKINSONII** : Bial lian vak lovin a bial chhuak a, hling sei tak tak a nei a. A bial chhipah a sen kual a, hling sei tak a nei.

9. **OPUNTIA MAMMILLATA** : Hei pawh Chawng kung ang a ni a, a tung zawngin a thang a, a pil awmdan chu rulvun phuhlip angin a in chhawng tuar a, a bawl hruih bawh a, a bawlah chuan hling sei tak tak a awm bawh.

10. **OREOURENS TROLLII** : Hei pawh hi a biala awm chi a ni a, mahse chi dang ho aiin a sawl deuh va, a hnah bial sawl khuar karah chuan hruia ang deuhin a kaih chuat a, a pawng laiah a hling a to sung bawh a, a chhip chu a senlar a ni.

11. **YULLA FILAMENTOSA** : Heng hi Mizo chuan Saipal kan ti a. Lakhuihthei hnah angin a hnah a awm a, a zikah a par tur chu sang bik takah a chawr chhuak thin.

12. **CHINOCACTUS GRUSONI** : Hei hi bawl mum anga lian a ni a, a chhip a eng a, a bial chu rin khuar angin, ngil takin a khuar lai leh a pawng lai a awm a. A pawnglaiah chuan arsi angin hling a awm siar a. A hling chu a eng a, a mawi hle.

**A LEILUNG DUH ZAWNG** : Cactus chi hian lei thaw leh balu lei a ngeih a, tin, lung chang tak

tak nena lei chu pawlh tur a ni a. ~~Pet~~ a klawi chuan a chanve lei tak, a chanve balu, a mawng-ah lung chang, a chung lamah pawh lung dah tur a ni a, hmun hnawng a dun a, ~~mahse~~ tui a tlin reng chuan a tawih mai bawh. Balu lei ringawt pawhin a tha duh a, mahse tui leih fimbur a ngai a, balu hlangah tui a luh that theih loh avangin, lei dang leh lung pawlh hi an uar chawh zawk a ni. Tin, boruak eng leh nisa a mamawh em em a, ruahtui tam a pawisa lova, enkawl nuam tak a ni.

**A CHI TIHPUN DAN :** A chi atanga kuitiah hi a lar lo hle a, kum sarih an tlin hma chuan an chi a tiak thei lova, chuuangin kawlawm leh a zar sahthlak hi an uar ber a, a nung duh em em a ni.

## BUNG - 9

### LUNG HUAN (Rock Garden)

Lung huan han tih hian lung awmsa kara pangpar phun emaw, lung dahkhawm chawpa lung huan siamte pawh a huam vek a.

Dan tlangpuiin lung huana pangpar phun hi a kumhlun chi (perenial) an phun deuh ber thin a. A chhan chu kum tin leitha pekte a lo harsat avang leh lung kara lei khan ni sa a hmuh mang loh avangin lei a tha rei duh a. Pangpar kumhlun chi ho hi chu, phun dawna leitha tam tawh pek chuan, a par dawnin a chunglanga leitha pek mai (top dressing)-in a tha duh em em a ni.

Kan sawi tak angin lung kara lei hi a hnawn reng avangin pangpar eichhe thei leh kherchhe thei hnaphawn, changpat, vual leh rannung chi hrang hrang an pung duh hle a. Chuvangin leitha pek rual khan DDT emaw BHC chawhpawh fo bakah kutin phul ziah bawh tur a ni,

Tin, lung karah tui a tling tur a ni lo va, tu-hawk luanna turin lung leh lung inkarah fel taka tuidawt emaw vuah ni sela, ni sat laiin lungte kha a sa duh em em a, pangparin a maw a par a duh thin lova, a hnah pawh a mawi tur angin a mawi thei thun lo a ni. Chu bakah an thang a thei thin lova, chuvangin ni sat lai chuan a khuh-na emaw zar hlimna emaw an siam thin.

**LEI BUATSANH DAN :** Tuthulh emaw, thirtiing hmangin emaw lungkar lei kha a thuk thei ang berin chophut ila, bawngkek emaw, vawkek emaw hneh takin chawhpawha dah tur a ni. Pangpar phun hma thlakhat velah buatsanh tur a ni a. A theih hram chuan Borne Meal leitha (saruh nawi) ngei dah ni sela, lei a hang reiin kum tam tak a chung a leitha (top dressing) dah ringawtin a tha thei tho thin.

Tin, pangpar thenkhat hi lungkara par thei lo chi a awm avangin, mahni mawi tih zawng zawng phun mai tur a ni lova, a hnuaia kan han sawi ang te hi, lungkara par duh chi leh tha duh chi te an ni, Tin, lung huanah hian eng lam aiin a senlar leh sendanglar lam uar ni sela, a mawi hma bikin huan a ti mawi zualkai thin a ni. Tin, a hmun sang laiah a kung lian lo chi leh a hnah mawi, a zam lam chi chin ni sela, a hniam laiah a kung sang chi phun tur a ni. Tin, lungkehkak kara awm anih chuan leitha kha hmawlhin pang-par zam chi leh a zung ngah lo chi dwarf (a te chi) Dianthus, Houseleek, Sedum sreamble leh River-slea te, Carnation te, phunin a mawi duh bakah, a vul rei thei a ni.

Lunghuan atana pangpar thaduh chi thlan-khawm bik te (alpine flower te) ;

1. **ALYSSUM MONTANUM :** He pangpar hi hmun sang lungpui bula par chi a par eng, a hnah hring, vaki rawng kan tih ang a ni a, March thla atanga May thla thleng par chi a ni. A zam chi,

a kung san lam inches thum leh li vel a ni.

2. **ARABIS ROSEA GRANDIFLORA** : He pangpar hi chi hnihin an then a, Pink Aralus leh Rock Creis an ti a. May leh June thlaah a par thin a, a sendang lar, inches ruk vela sang a ni.

3. **ABRIETA** : He pangpar tel lo hi chuan lung huan (Rock Garden) a ni thei lo an ti hial thin a. Hei pawh hi lung kak kara phun chi, a zam chi bawh, March atanga June thla thlenga par thin a ni. A kung san lam chu inches li lek a ni a, a pawdang, a sendang lar, a senduk tein a par thin.

4. **CAMPANULA CARPATICA** : Thingpui in-na no anga par, June thla atanga August thla thlengin a vul thin a. A par rawng chu a pawl, eng leh a var te in an par thin, A kung san lam chu inches kua vel a ni.

5. **GRASTIUM TOMENTOSUM** (Snow in Summer) : Lung pangpar alpine zawng zinga lar ber pawl, carpet angin lung-chungah a zam a, a hnah a mawi em em a, lung huan a ti mawi a, a hnah rawng silver (tangkarua) angin a tle siar a. A par erawh a var leh pawldang mawitakin a par thin. June atanga August thla thleng a vul thin. A kung san lam chu inches li atanga inches ruk vel a ni.

6. **DIANTHUS ALLWOODII** (Pink) : Kan sawitawh angin pangpar senlar emaw, sendanglar emaw tello chuan lung huan a mawi thei lo kan tih kha. He pangpar hi a senlar, sendanglar, sen-no leh a var te an ni a, June thla atanga August thla thleng par thin a ni a. A kung san lam chu inches kua atanga feet khat vel a ni.

7. **GYPOPHILA REPENS ROSEA** : Hei pawh hi June thla atanga August thla thleng a vul thin a. Nisa a tawrh theih avangin lunghuanah an ching nasa hle thin.

8. **HELLANTHEMUM** (Rock Rose) : Englai pawha hnah hring chhuah reng, lung huan ti hausatu a ni a, nisa leh khawlum a duh a, tui a mamawh tlem em em bawk. Chuvang chuan lung huanah an phun nasa thei em em a ni. A nungduhin a damrei bawk a. Lung huan harsatna sukiangtu (Problem Solver of Rock Garden) an ti hial a ni. A par rawng chu sendanglar, serthlum rawng, senlar te an ni. A kung san lam chu feet khat vel a sang, May thla atanga June thla thleng par thin a ni.

9. **IBERIS SEMBERVIRENS** : Par mawi tak, Aubrieta leh Alyssum karah phunin a mawi zual a, May thla atanga June thla thleng a par a, a kung san lam chu inches kua vel a ni.

10. **SAPONARIA OCYMOIDES** : Hei pawh ni lung-panga zam chi, khawlum leh nisa a duh a, tin, cement karah emaw, lungkarah emaw phun chi a ni. A sendanglar in a par thin. June leh July thlaah a par a, a par loh laiin a hnah a mawi em em thin bawk.

11. **SAXIFRAGA** : A hnah silver rawng ang a buang thek mai chuan lung huan a ti mawi em em a. A sendanglar leh a varin a par thin a. Lungbanga zam chi bawk a ni. May atanga July thla thleng a par thin. A kung san lam chu inches li vel a sang a ni.

12. **SEDUM** (Stonecrop) : A hnah chhah leh mawi tak, lung chung a zam chhohin, a hnah a lianin a chhah zual thin a, lung hmun a ngeih em avangin (stone crop) lung-thlai an ti hial thin. A par chu sendanglar leh a varin a par thin.

13. **SILENE SCHAFTA** : October thla vel a par thin a ni a, a hnah mawi em em a ni a, a kung san lam chu inches ruk vel a ni a, a par senduk a ni.

14. **ANDROSA CHUMBEYI** : A hnah sahmul puan anga nem thlap mai, May leh June thla a par chi, a bul a buk duh a, kungkhat lek pawh phun ila feet khat bial vel lain a buk-luih thin. A rawng chu a senlarin a par thin.
15. **CYCLAMEN NEAPOLITANUM** September thla leh October thla vel a par thin, mawi em em a ni a, a hnah bul lam bial a hmawr sum lian nalh tak a ni a, a par senlar a ni.
16. **GERANIUM DALMATIUM** (Granvis Bill) : Lung huan ti mawi zualtu, June thla atanga October thla thleng par thin a ni. A par rawng chu sendanglar, a pawl, a senlar te an ni a, inches ruk atanga inches kua vel a sang a ni.
17. **PHLOX DAUGLASSII** : A bul bawr laih mai kungkhat chauh phunin feet hnih bial lain a tawi-luih thei a, May leh June thlaah a par thin a, a par pawl-dang mawi tak chuan mit a ti hahdam em em a ni.
18. **RAMONDA PYRENICA** : A hnah hringduk mawi tak mai, samzai anga sin, dingsang mai buk-laih mai si a ni. Lung huan timawitu, a par pawl, a chhungsen vap ham mai, June leh May thlaah a par thin a ni. A kung san lam chu inches ruk vel a ni a, hmar lam hawi zawng a phunin a nungduh bik a ni.
19. **SEMPARIVUM TECTORAM** : A hnah chung-lam hring, a hnuailam duk, a par senlar tak, July thla a par thin a ni. Kung-tawi te inches hnih vel lek, nta a duh em em avangin lung huanah a mawi (vul) bik em em a ni.
20. **THYMUS SERPYLLUM** : Par rimtui a hnah senduk a ni a, kung tawite, June atanga August thla thleng par thin a ni.
21. **VERONICA PROSTRATA** : Hei pawh hi lei a zam darh chi, May atnga July thla thleng par



thin a ni. A par lian tak, a pawldukin a par a, a zam-darh buk-laih mai thina a mawi em em a ni. Nisa leh hmun-ro a duh a. Bangah emaw lungpangah emaw zam darh turin an phun thin.

## BUNG - 10

### PANGPAR HNAH MAWI CHI TE (HERBACIOUS BORDER)

Hetianga pangpar chi hi Mizo chuan Plant tiin kan lam mai a, a hnah mawi chi, a par lem lo te leh a parmawi tak tak nei chite pawh an awm ve tho bawh a. Chi hnihah an then leh a, tun a kan sawi tur hi chu kumkhat leh kumhni chhung nung thei a ni.

Herbacious Plants hi British ramah khuan an ching chhuak hmasa ber a, Kum A.D. 1870 vel khan an uar tana, mithiam ten hetianga pangpar an zawnaah hian a hnah chauh mawi nilo a par pawh mawi tak tak an hmuhchhuah belh zel a, a phunna lei buatsaih dan leh enkawl dan te chu thuhmun vek mahse par mawi bik chhuah thei te an ni hlawm a.

Chi hrang hrang a tam em em a, mahse a tlangpui chauh leh Mizorama kan chin theih angte chauh sawi ila.

**LEI BUATSAIH DAN :** Mizoramah hi chuan pangpar chingtu te hian huan tak taka ching lova mahni In bulah Pot (Hlumbel) emaw tin ruak emaw a, zimte te a pangpar khawi nun kan uar hle a. Hetianga pangpar khawi hi, enkawl ngun leh lei buatsaih uluk chuan a mawi em em tho a ni.

Tuna kan han sawi tur Plant chite hi, September leh Ootober thla tawp thlenga phun chite an ni a. Tin, March thla leh April thlaa phun chite pawh a awm bawh a. A phunna tur lei chu Tin ruakah emaw, huanah emaw i chin dawnin a lei buatsaih dan chu thuhmun vek tho a ni. August thla tir lamah bawng-ek leh lei inzat chiaha chawhpawlin, tin ruk emaw Hlumbel emaw i hman turakhkan dahkhat la, tichuan September thla tirah chuan a lei chu a lo tui tawh anga, phun theih a ni mai ang. Tin, bawng-ek emaw vawkek leitha neih loh chuan, tlangsam hnah leh Japanhlo hnah mal khawmin lei nen dahpawlh a, a chung a kan sawi bawng-ekte ang tho hian pangpar chi tinin an ngeih em em a ni. Tichuan phunna tur chu a thuk zawng, a tlem berah inches sawin a thuk a hlumbel chu feet khat bial tal nisela, tin, lei taka kan phun dawn pawhun lei chawhphut leh leitha siam chu inches sawma thuk nisela. Tin, phunna lei kha a hnawng long tur a ni a. Tui erawh a tling tur a ni lo. Feet huih kar danah phun nisela, a inhnaih lutuk chuan, a buk mawi tur angin a mawi hleitheih thin lo a ni. Tin, hetiang plant zingah hian tui duh tam lo te chu an awm tak meuh mai a, a mal hrilhfiahnah sawi a ni ang. Tin, a hma a kan sawi ang thovin pangpar phun reng reng hi uluk taka, a phunna hmun tur kha buatsaih hmasak loh chuan, a par tur angin a par theih thin lova, a hnah pawh a mawi theih thin lo a ni.

Tin, heng Herbacious zingah hian henglaia, kan pangpar chin lar tak tak te pawh hi a tam a, a lei buatsaih dan chu heta kan sawi ang hi an ni vek hlawn a, Ni eng a duh dan leh tui an mamawh dan te hrilhfiah nan pangpar leh hnahmawi chi hrang hrang te :—

1. **ACAENA MICROPHYLLA** : Plant mawi tak, englai pawha hring reng, nipui lain a hnah a hlai mawi zual a, nisa a mamawh em em a ni.

2. **ACANTHUS SPINOSUS** : A hnah hringduk, a kung san lam chu feet hnah vel, kumtlwana hring mawi tak a ni. June thla velah parte reuh te te a chhuah ve thin a. Nisa leh nhlimah pawh a tha duh ve ve a ni. A nungduhin enkawl a num em em a ni.

3. **ACHILLEA** (Yellow) : Nisa tak a duh a, a san lam chu feet hnah vel, a hnah a mawi angbawkin parmawi a chhuah thei a ni.

4. **ACONITUM** (Monks Hood) : Lu' hum anga par, a hnah mawi bawh si, rawng pawla par thin, July atanga August thla thleng a par thin a ni. A kung san lam feet hnah vel a ni a, nisa a mamawh em em a ni.

5. **AGAPANTHUS** (African Lily) : He pangpar mawi tak hi, July thla atang a August thlenga vul thin a, a hnah mawina hnan huan teitu a thlun thin a. Thlasik a haw hle a, nisa tak a mamawh a ni.

6. **AJUCA** : A kung te tak inchies ruk vel lek a sang a ni. A par buk tak mai, a par tawh vek vek chuan, a kung leh a hnah lang lo lekin a vul khat tlat thin a ni. May thla atanga June thla thleng a par thin a, nisa a mamawh em em a, kumtlwanin a hnah a hring mawi em em a ni.

7. **ALYSSUM** (Gold Dust) : Hei pawh hi inches ruk vel a sang, nisa mamawh em em a ni a, Rangkachak rawngin a par a. May thla atanga July thla thleng a par vul thin.

8. **ANAPHALIS TRIPLINERVIS** : Pangpar mawi chungchuang August thla atanga September thla thleng par thin a ni. A var leh var uk deuh (Crimson) in a par thin a, a san lam chu feet khat vela sang a ni a, a hnah chu sahmul puan anga nelthap mai, mawi tak bawh a ni.

9. **ANCHUSA** : A par vul rei avanga nganat hlawh bik a ni. May thla atanga August thla

thleng par thin a ni a. Nisa a mamawh em em a. Vandumpawl rawngin a par thin. A kung san lam chu feet hnih vel a ni.

10. ANIMONE : Japan ram atanga lak darh, August thla atanga October thla thlenga par thin a ni. Nisa a mamawh rualin nihlim a mamawh em em tho va, nihlim ni lo nisa lutuk lova dah chi a ni. Hetiang par hi chi thumah an then a : -

(a) Brussingham Glow : Feet khat vela sang, a par senlar, rose anga inthuah mawi tak a ni.

(b) Louis Ulrink : A par var, a kung san lam feet hnih vela sang a ni.

(c) September Charm : A sendanglar, a par feet khat leh a chanve vela sang mawi tak a ni.

11. ANTHEMIS TINCTORIA : Hringdangin, a par a, a hnah bial hring mawi tak, englaipawha hring reng, a kung san lam feet hnih a ni a, nisa a mamawh nasa em em a ni.

12. AQUILERA (Colombine) : Hnaw mawi zinga lar leh mawi ber pawl, June leh July thlaah a hnaw a mawi zual thin. Feet hniha sang a ni.

13. ARMERIA (Thrift) : A kung feet khat vela sang, a hnaw sahmul anga nem chhaw mawi tak, nisa a mamawh tam a, May atanga June thla thleng a par thin. A par lai hian, a hnaw sendanglarin a rawn vul'chhuah ve thin avang hian a ti mawi zualkai thin.

14. ARTIMISIA (warm wood) : Tangkarua rawng ang a, a hnaw tle buangthak mai, a kung atang a peng lo chhuak bawr laih mai chuan, mut a la in a ti mawi zual thin a. Nisa a mamawh tho nain, nisa lutuk chu a duh chuang lo.

15. ASTIMISIA (Michaelmass Daisy) : Aster hi Half Hardy-ah khan kan telh tawhna a, Plant zing a chhiar tel a nih avangin, kan sawi leh a ngai a. Aster hi Michaelmass Daisy tiin an lam bawk thin a. A kung san lam chu feet hnih vel a ni. Nisa a mamawh hle a ni.

Aster chi hrang hrang a tam hle a ni. Chungte chu:

1. Ada Ballard : A pawl eng mawi tak a par thuah, September thla atang a October thla thleng par thin a ni.

2. Crimson Brigade : A senduk rawng, a par thuah tam tak, June thla atang a August thla thleng par thin a ni.

3. Geventi De : A pawlduk a par, par thuah tiem deuh, mit la tak a ni.

4. Marie Ballard : A pawldang a par, feet thum vel a sang a ni.

5. Royal Velvet : A senduk, a uk-rawng lek lek zawkmah, feet khat leh a chanve vel a sang a ni thin.

6. Rose Bonnet : A kung te chi (Dwraf) a sendanglar, kung buk-laih mai, inches ruk vel lek a sang a ni.

7. Lady In Blue : Hei pawh hi a kung te chi (Dwarf) a ni a, a pawlduk, parbuk tak a ni,

8. Starlight : A sendanglar, a kung buk chi bawk a ni.

16. ASTILBE : Nisa a mamawh hle a, ni hlim pawh a mamawh a, nisa lutuk lo dam lutuk loah phun chi a ni a, a par mawi em em a, feet hnih vel a sang a ni. A sendanglar leh a senno a par, senlar, senduk te an ni.

17. ANBREITA : Inches ruk vel a sang, a par pawl, senduk, senlar, sendanglar, parmawi em em, October-November thla velah a par thin.

18. BERGINIA : Englaipawh a hnah hring reng, a hnah bial mawi tak, March thla atanga May thla thlengin a par thin a. Nisa leh ni hlim tawk chauh a mamawh a ni.

19. **CAMPNULA** (Bell flower) : Lei chawhphut dap leh hnawng a mamawh a, nisa lutuk lo leh nihlin a mamawh a ni. Rawng chi hrang hrang tam tak a awm a, a kung san lam chu inches thum leh inches li vel a ni.

20. **CATANANCHE COERULAE MAJOR** : Feet khat vel a sang, mitdumpawl ang a pawlin a par a, nisa a mamawh em em a, hmun theng-thawah a par vul mawi bik thin. A kuhmum hmain a kung tan rual tur a ni. Tichuan a par vul chuk ang a, a mawi leh zual thin.

21. **CERATOSTIGMA PHUMBAGINOISLES**  
August thla atanga October thla thleng a par thin a ni a. Sap ramah chuan, favang lai timawitu (Beauty of Autumn) an ti thin. Tin, a par zawh hian a hnah rawng a sen thin a, chuvangin kumtluanin a mawi reng thin.

22. **CHRYSANTHEMUM MANIMUM** (Shasta Daisy) : June thla atang a August thla thleng a par thin a, nisa a mamawh em em a, feet hnua vel a sang a ni thin a, senduk, a eng, var te in a par thin. A rirtui em em a ni.

23. **CIMIFUGA COREIFOLIA** : He pawh hi August atanga October thla thleng a par thin a ni a, feet thum vel a sang a ni a, nisa tak a mamawh a ni.

24. **CONVALLARIA** (Lily of the valley) : A par var rirtui em em April leh May thla vel a par thin, hmun hnawng leh dai hlim a mamawh a, nisa lutuk lo a mamawh bawh.

25. **COREOPSIS** : Nipui chhung zawngin a par thei a, a par vul rei avang hian pangpar ngai-nat a nih phah a. A kuhmum hma deuh va, a zik kha tihchhum tur a ni a, a tang chawr zawng zawng khan, a kuhmum a chhuah pui vek a, a rualin tam tak tak kung khatah a par thin a ni. A kungsan lam chu feet hnih a ni.

26. DELPHINIUM : A senduk duk tak, a par chhung atangin a varin a rawn kap chhuak siar a, a mawi em em thin a ni. A par pawl, sendanglar mawi tak a awm bawk a, a kung san lam chu feet hnih atanga feet li lai a tling thei. Nisa tak a mamawh bawk.

27. DIANTHUS (Pinks) : A sendanglar mawi tak, upui lai tinuamtu (Best of summer) tuin an lam bawk thin. A kung san lam chu inches ruk atanga feet khat vei a ni thin a. June thla atanga July thla thleng a vul thin a, nisa tak a mamawh a, a par var (White Ladies) an tih ang pawh a awm a, a mamawh hlo bawk a ni.

28. DORONICUM (Leopard's Bane) : April thla atanga June thla thleng par thin a ni a, nisa a mamawh lutuk lo. A kung san lam chu feet khat leh a chanve vela sang a ni a, a par eng mawi tak a ni.

29. CHINOPS : A par bial map mai (Globe Shape), rawng pawla par, June thla atanga August thla thlenga par thin a ni a, nisa tak a mamawh a, feet thum vela sang a ni.

30. CRIGERON (Fleebane) : A kung san lam feet khat atanga, feet hnih vel, Daisy ang a par, June thla atanga July thla thlenga par thin a ni. Nisa a mamawh em em a, a sendanglar tak leh violet duk takin a par mawi em em thin.

31. ERYNGIUM (Sea Holly) : Thlasik laun a hnah leh a par a arh mawi zual thin a, nisa a mamawh nasa a ni. A par chhung hlawm mawi tak chu July thla atangin a rawn bawr chhuak tan a, hun rei tak a vul thin. A kung chu feet hnih vel a ni.

32. EUPHORBIA (Spurge) : Nisa a mamaw lam vak lova, May thlaah a par tan thin a, inches ruk chauha sang a ni.

33. GERANIUM : Nisa lutuk a ngaithei lova, nihlim lutuk a duh bawk lova, a tawk chauha nisa leh nihlim a mamawh a ni. Tui huh a ngaithei lova, kar khatah tui vawri bhat chauh pokin a tawk chauh a ni. Tin, phun thar phei chu chawlhkar thum chhung tal tui leih hauh loh tur a ni. Chutilo chuan a tawih chhe vek thun. Geranium hi rawng chi hrang hrang leh variety chi hrang hrang a tam em em a ni.
34. GYPSOPHILA : A vul rei avangin khawi a tan a lar em em a, July thla atanga September thla thleng a vul thin a. A par var thuah tam tak mawi tak a ni.
35. HELENIUM : July thla atanga September thla thlenga par thin a ni. Phun nun awlsam, nisa tak a duh a. A kung san lam chu feet hnih vel a ni a, a engsen, englar, serthlum rawng leh senlar te in a par thin.
36. HELIANTHEMUM (Sun Rose) : May thla atanga July thla thleng a par thun a, incies ruk vela sang a ni. A par lanpui mai, a par thuah (Petals) tam tak nei, a par eng leh serthlum rawng, senduk ten a par thin.
37. HELIANTHUS (Sunflower) : Feet thum vel a sang, a kumhlun chi, Mizovin Nihawipar kan ti a. A par eng a ni a, July thla atanga September thla thleng a par thin.
38. HELLEBROUS (Christmas Rose and Lenten Rose) : Hetiang par hi December thlaa par chi, Christmas Rose an tih leh Isua sun lai (Good Friday) vela par a ni a, Lenten Rose an tih ang chi hi a ni a. Nisa tak leh ni hmuh miah lohnaah pawh a par vul tha thei em em a ni. Rawng chi hrang hrang tam tak a awm a, a enkawl a nuamin a par mawi em em bawk a ni.
39. HERMIROCALLIS (Day Lili) : Feet hnih vela sang, July thla atanga September thla thlenga



par thin a ni a, Tawtawrawt angin dawt a nei,  
a tlang lam pang arhin a par thin a. Chi hrang  
tam tak a awm a, mahse a enkawl dan chu thu-  
hmun vek an ni hlawm. Nisa lutuk lo a duh a,  
ni hmu lo tawp erawh chuan a tha thei lo thung.

- (a) Dorothy Mc : A engdala par.
- (b) Golden Orchid : Serthlum rawng tak
- (c) Pink Charm : Sendanglar.
- (d) Pink Prelude : Sendang.
- (e) Pink Damaska : Sendangdal

40. HEUCHERA : June thla atanga September  
thla thlenga parthin a ni. Nisa lutuk a ngaithei lo.  
A kung san lam chu feet khat atanga feet hnih  
a ni a, a senlar, leh sendanglar leh englar  
mawi takin a par thin.

41. HOSTA : Hei pawh hi nisa lutuk ngaithei lo  
chi bawh a ni a, feet khat atanga feet hnih a  
sang a ni a, a par var rimtutak a ni.

42. INCARVILLEA DELAVAYI (Trumpet Flower)  
Tawtawrawt par an ti bawh. May thla atanga July  
thla thleng a par thin a, a parsen mawi tak mai  
chuan, nipui lai a tinuam an ti thin. Feet khat  
atanga feet hnih inkar a ni thin.

43. KNIPHOFIA (Red Hot Poker) : July thla  
a tanga October thla thlenga par chi, nisa a  
mamawh em em a, a san lam chu feet hnih  
atanga feet thum, par var leh mawi tak a ni.

44. LAVATERA OLBIA ROSEA : June thla atanga  
October thla thleng par thin a ni. Holly Hock  
par ang deuh, mahse Rose anga, mawi taka par  
inthuah, feet thum atanga feet lia sang a ni. A  
par var leh sen, a eng te a ni a, a vul lain a  
mawi em em thin. Huan neitute ti hlimtu an ti  
hial thin.

45. LUPINAUS (Lupin) : A kung san lam feet

thum vel, May thla atanga Jun' thleng  
par thin a ni. A par a ctuai vele' tan chhum  
ila, tichuan Setember thlaah a par leh thin.  
Nisa a mamawh em em , a parmawi em em  
a ni.

46. **HYCHRIS CHALCEDONICA** (Campion) :  
A kung feet hnih leh a chanve a sang July thla  
atanga August thla thleng par thin a ni a. A hnai  
hlai hring mawi tak, a par chu senlar mawi tak  
(Scarlet) in a par thin.

47. **MONARDA** (Bergamot) : A kung san lam  
feet hnih atanga feet thum, July thla atanga  
September thla thleng a par thin a. Nisa lutuk a  
ngaithei lo va, ni hmu lo chuan a par thei lo  
bawk. A senduk, sendanglar te in a par thin.

48. **NUPATA MISINII** (Catmint, Catnip) : Hetang,  
par hi Catnip emaw Catmint emaw tin an sawi  
lar zawk thin. Par pawl te reuh te a par, feet  
khat vel a sang a ni a, nisa a mamawh em em a,  
A rim hian Sazu a koh avangin Sazuin a ei duh hle.

49. **OENOTHERA** (Crening Primrose) : A kung  
feet khat vela sang, July leh Aug. thla velah a par  
thin. Nisa a mamawh em em a, a par eng  
rimtui tak a ni.

50. **PACNIA** (Paeony) : A kung feet hnih vel a  
sang, June leh July thla a par thin, a senlar  
a sendanglar, a var te in a par a, a par thuah  
a mawi em em thin. Nisa a mamawh em em bawk.

51. **PAPAYER ORIENTAL** (Oriental Poppy) : Par  
lian tak, a kung san lam feet hnih leh a chanve  
vel rawng chi hrang tam tak a awm. Nisa a  
mamawh em em a ni.

52. **PENSTEMON BARBATUS** : Hei pawh hi June  
atanga September thla thleng par thin a nia, feet  
hnih a sang a ni. Nisa lutuk lo, daihlm lutuk si lo  
va dah tur a ni. Sendanglar mawi takin a par thin.

53. PHLOX PANICULATA : Lei chhia a ngam hle a, mahse, nisa lutuk loah bawk chin tur a ni. July thla atang a September thla thleng a par thin. Feet hnih vel bawk a sang a ni a, rawng chi hrang tam tak a awm.

54. PHYSOSTECIA : May thla a tanga October thla thleng a par thin, par mawi em em a ni a. A par senlar leh sendang mawi tak a ni. Feet hnih vel a sang a ni.

55. POLYGONUM : August thla atang a October thla thleng a par thin a, a kung san lam chu inches ruk vel a ni. Leia zam darh chi a ni a, a kung a pung duh hle. A senlar, sendanglar te in a par thin. Nisa lutuk a duh lo hle a ni.

56. POTENTILLA : A kung feet khat leh feet hnih vel a sang, nisa lutuk a ngaithei lo va, serthlum rawngin a par thin a. May thla atang a July thla thlengin a par thin.

57. PRIMULA : A kung san lam feet chanve atanga feet hnih thleng a ni thei. A senduk leh Violet-in a par thin a. March thla atang a July thla thleng a par thin.

58. PULMONARIA : Nisa a chin chi a ni lova, englaipawh a nihlimah dah tur a ni. A kung san lam chu inches li atang a inches ruk lek a a ni a, leia zamdarh chi bawk a ni a, a par pawl mawi tak a ni.

59. PYRETHRUM : Hetiang pangpar hi May thla atang a June thla thleng par thin a ni. Rawng sen leh sendanglarin a par thin a, a kung san lam chu feet hnih vel a ni.

60. RUDHECKIA : August thla atang a September thla thleng a par thin a, a kung sanlam chu feet li vel a ni. Rawng eng leh serthlum rawngin a par thin. Nisa lutuk a duh lova, daihlim deuh nisa si a phun tur a ni.

61. SALVIA : He pangpar pawh hi nisa lutuk ngaithei lo chi bawk a ni. A par rei thei hle a, May thla atang a September thla thleng a par thin a. A kung san lam chu feet khat atang a feet hnih vel thleng a ni.

62. SAPNORIA OCYMOIDES : A sendanglar duk deuh, May leh June thlaah a par thin. Inches 3 leh 4 lek a sang a ni a, nisaa dah chi a ni,

63. SARIFRAGA UMBROSA ( London Pride ) : April thla atangin a par a, June thla thlengin. A kung san lam chu inches kua vel a ni a, nisa lutuk a duh lo bawk. A sendanglar mawi takin a par thin.

64. SCABIOSA : July thla atang a November thlengin a par thin a. Nisa a mamawh em em a, a kung san lam chu feet hnih vel a ni a, a pawl leh a varin a par thin.

65. SEDUM : Hei pawh hi a zam-darh chi a ni a, a san lam chu inches hnih leh thum vel lek a ni a, a sen, a sendanglar, a var-te in a par thin.

66. SIDAHA : July thla leh August thlain a par thin a, a san lam chu feet hnih vel a ni a, a senduk leh sendanglarin a par thin.

67. SOLIDAGO ( Golden Rod ) : Hei pawh hi July thla atanga August thla thleng a par thin a nisa tak a mamawh a, a par eng leh serthlum rawng a ni. A san lam chu feet hnih vel a ni.

68. STACHYS (hamb's Ears) : Hnah chhawhchhi rawng buang thak mai feet khat vel a sang, lei a zam-darh chi a ni.

69. THALICTRUM : A senduk a par, mawitak a ni. June thla atanga August thla thlenga par thin a ni a. A kung san lam chu feet thum atanga feet li vel a ni.

70. THYMUS : Pangpar kung hniam tak lei a zam-darh chi a ni. June thla atang a August thla thleng a par chi a ni. A senduk, violet duktakin a par a, a hnah a mawi em em pav'''

71. TROLLINS (Globe Thistle) : Nisa vak lo a dah chi a ni a, kung chu sang tak a ni. May thla atang a June thla thleng par thin a ni.

72. VARKASCUM : Feet thum vel a sang, June thla atang a July thla thleng par thin a ni. Nisa tak a mamawh a, a par eng, sendanglar sendal deuh siin a par thin.

73. VERONICA : Hetiang pangpar hi chi hrang a tam em em a, a kung san lam chu, inches ruk atang a feet li a ni a, nisa tak an mamawh a, a parpawl duk, pawl-eng, vandum pawl rawng te an ni.



## BUNG - 11

### BULBAWK NEI CHI PANGPAR TE ( TUBERS )

Bulbawk nei chi pangpar hi chi hrang tam tak a awm a, mahse Mizo tawnga heng par chi hrang hrang kan neih te hi a hming kan vuah ve loh avangin, Di pangpar, Lily te kan ti deuh vek mai a. Hetiang bulbawk nei chi te hi an enkawl a nuamin a pung duh em em a. Vawikhat phun tawh chuan kum tam tak a daih mai bakah a bul peng phun sawn theih chi tamtak tak kumkhatah pawh a pen chhuah theih thin avangin sum lakluh nan a tha em em vek a ni. Tin, hetiang bulbawk nei chi pangpar te hi huana phaitual hnim tihrehnante an hmang nasahle thin Phaitul hnim awmnaah phun chuan a tlem hlahu thin a, heng pangpar te hi a

par that duh leh a mawi avang leh a enkawl a  
nawm a vangin hmun hrang hrangah an phun thin  
Pot (hlumbel) ah te, lungmun (rock garden) ah  
te pawh a mawi em em zel a ni. Leitha a  
mamawh tam vak lova, nisa a duh tam a, mahse ni-  
sa lutuka dah chuan a par a chuai hma bik thin.

**PHUNNA HMUN TUR :** Heng Bulbawk nei pangpar  
te hi khawi hmunah pawh an tha duh tak nain  
pangpar huan leh kan inbul vel cheimawi tur  
chuan phunna, hmun thlan thiam a ngai a. Bulbawk  
nei chi reng reng hi an kung a derthawng a,  
a thsawp hma em em a, chuvangin, thlithawt  
nasatna hmunah chuan chin tur a ni lova, nisat  
lutukna hmunah chin tur a ni bawk hek lo.

**PHUNNA LEI BUATSAIH DAN :** Kan sawitawh  
angin Bulbawk nei chi, di pangpar chi leh Lily  
kan tih ang chi reng reng hi an nung duhin an  
pung duh em em a mahse kan enkawl dan leh  
a lei buatsaih dan a zirin an parmawi dan a  
chang lam daih thin a ni.

I phunna tur chu inches riat emaw sawm  
emaw a zauvin chophut la, bawnggek emaw vaw-  
ek, Arek pawh hneh takin leiah chuan hmehpawlh  
la, kan sawi tawh angin inches riata zau feet  
sawma sei i buatsaih chuan bawnggek tinkhat  
pawlh a tawk mai a, englai pawhin a hnawng  
reng tur a ni. Tin, lei pangngai leh leitha chawh-  
pawlhah khan lung tel lovin lei kha dip dap ni  
sela, lei chawhphuta phunna tur laihah a tlem  
berah inches ruka chhah ni sela, tin, hetiang  
Bulbawk hi rannungin a ei duh em em a, Phunna  
tur laiah khan thosihlo emaw chi (salt) tlem dah  
hmasak ni sela, tichuan rannungin an eichhe  
lovang. Feet khat kardanah phun tur a ni.

**A ENKAWL DAN :** A chung a kan sawi ang dap  
a, lei kan buatsaih chuan, enkawlzui em em  
a ngai lova, mahse a diptu hnim a awm chuan a

rang thei ang ber a tihfai vat tur a ni. Hnim  
 zingah chuan a par tha thei lova, chubakah a par  
 a te thir a ni. A hma a kan sawi tawh angin, a  
 par kuhhum tantirh veleh leitha (fertilizer) U rea  
 (mizovin, leichi) kan tih ang hi, dutno khatah thir-  
 fiante hnih pawlhin a kung atanga zungchal chen  
 vel a hlaah leihkual chhuah tur a ni a. Tin, a  
 bulbawk kha a hma kum a mi phun tha chuang  
 lova rinngal a nih chuan a kung a lo chawrtir  
 hneh pathum emaw a chhuah hunah leitha pek  
 bawk tur a ni. Bulbawk nei chi pangpar reng reng  
 te hi chu, a par a lo chuah hun chuan, a kung  
 kha tan chhum mai tur an ni lova, amahin a lo ro  
 ang a, a thih thak thlengin a kung chu zuah tur  
 a ni. A la hrin hluah laia tanchhum chuan, a  
 bulbawk kha a tha thei lova, a kum leh a par  
 kha a tein a chhe vek thin a ni. Amaherawhchu  
 a hmunah hian pangpar dang i chin duh chuan  
 a bulbawk kha, a kung la hring chin tanchhum  
 lovin fimkhur takin karpawng la, fai takin leika  
 miah lovin tifa la, nisaah a kung a ro thak thlengin  
 pho tur a ni. Tichuan a kungro chu tuaithlain  
 lehkhap fai takah thunin, kum leh May thla vela  
 chih atan kawl that mai tur a ni. Rannung leh  
 a hrikin a bulbawk a eichhiat loh an lehkhap a  
 dahthat hmam thosihlo emaw phul tur a ni. Tin,  
 rannungin emaw a hrikin a eikuak deuh te a awm  
 a nih chuan a dang bulah dah hauh lovin paih  
 nghal vang vang tur a ni. A bul hrisel te chauh  
 dahthat tur a ni a, a bul thalo leh hrisel lo te chu  
 chawrthei tho mahsela, an par tha thei thun lo a ni.  
**BULBAWK TIHPUN DAN :** Pangpar bul nei chi  
 reng reng hi, a par zawha a bulkar chauh vin  
 a kungpui bul pangah a peng a lo awm tuih thin  
 a, heng a peng te te te chu fimkhur takin tuai  
 thlak tur a ni. A kungpui bulbawk kha chu a hma  
 a kan sawi tawh ang khian dah that mai tur a ni.  
 A peng te erawh chu leiah thuk lo te in phum  
 leh la, pan taka leia vurin a bulbawk kha than

len tir tur a ni a. Tichuan a phun hun panggaiah  
a phunna tur buatsaihaa khan a bul, paingasa  
te nen khan phunrual leh tur a ni. Hetiang tih  
loh chuan a bul peng te pang phun, awm mai  
chuan a par har em em thin a, kumkhat lai han  
a duh thin a ni. Dahlia leh Lily te hi chu a bul  
a peng te pawh leitha pek that chuan kumkhat  
chhungin an par thei tho a ni.

Di Pangpar Leh Lily Leh Dahlia Chi Hrang  
Hrang Te :

1. **ACIDANTHERA** : August thla atanga Sep-  
tember thla thlenga par thin, parmawh leh rimtui,  
a vara par, chhung (laimu) senduk feet thum  
atanga feet li a sang a ni deuh ber a. A phun  
hun chu April thla leh May thla a ni. Heng  
pangpar hian nisa a mamawh em em a, a bulah  
tui a tling tur a ni lo bawk.

2. **ALLIUM** : Hetiang par hi chi hrang hrang  
a tam hle a, rawng mawi tak tak, rawng chi  
hrang hrang an ni hlawn a, inches kua atanga  
feet thum laia sang a ni thei a. May thla atanga  
July thla thleng a par thin a. A phun hun chu  
September atanga October a ni. Nisa a mamawh  
lutuk lemlo.

3. **ANEMONE** : Inches ruk a sang (rock garden)  
atan a mawi bik a. February atanga April thla  
thleng a par thin a, a var leh a pawlin a par  
thin. Tin, hetiang chi tho St. Brigid an tih pawh  
a awm a, a kung a sang deuh hlek a, feet khat  
velin a sang a, hetiang par hi enkawlan nuamin  
a par duh em em a, February atanga October  
thla thleng a par thin, rawng chihrang hrang  
a awm.

4. **CHINODONA LILIAL** (Glory of Snow) :  
February atanga March thla thleng a par thin  
inches ruk veia sang, lung karah a mawi duh a,



pangpar bel (pot) te reuh te-ah pawh mawi tak-  
in a par thin a. A phun hun chu September thla  
leh October thla a ni. Rawng chi hrang hrang-  
in a par thin

5. COLCHICUM (Antum crocus) : Inches ruk  
atanga inches sawm vela sang, July thla a phun-  
in September thla leh October thlang a par thin.  
Rawng chi hrang hrang a awm a, he pangpar  
hi chu pot a, a mal tea phun ai chuan a kung  
tam tak phunkhawmin a mawi duh bik em em  
a ni. Rawng chi hrang hrang a awm.

6. CROCOSMIA : Hetiang par hi Monbretia tiin  
an lam bawk thin a, di pangpar te chi a ni a,  
Mizoramah pawh a tam hle a. Feet hnih vela sang  
a ni. March thla a phunin July thla atanga  
September thla thlang a par vul thin a. Inchhung  
cheimawi nan khawiah a mawi a, a vul rei bawk  
avangin he pangpar hi a lar hle a ni.

7. CROCUS : Di pangpar zinga mawi chung-  
chuang, pot (hlumbel) ah emaw huanah emaw  
khawin a mawi em em vek a, hmunkhatah a  
khat tawka rawng chi hrang hrang phun pawlin  
a mawi duh em em a ni. September thla atanga  
November thlaa phunin February, March thla  
thlengin a vul thei a ni.

8. CYCLAMEN : Hetiang di pangkar hi lung-  
huanah emaw pot (hlumbel) ah emaw a mawi  
duh em em a, inches thum atanga inches ruk  
velin a sanga, rawng chi hrang hrangin a par  
a, August thla leh July thla vel hi a phun hun a  
ni a, November thla atanga December thla vel  
ah a par thin.

9. DAHLIA'S : DAHLIA par hi khawvel pumpuiah  
a lar a, chi hrang a tam em em bawk a, a bul-  
bawk atanga phun chi bawk a ni a, mahse a cni  
atanga tih to pawh a theih thova. A bulbawk  
atanga phun erawh hi chu a tha duh zawk a,

a bul baw kumin a par tawh, khawih danglam lova, kumleh a lo to tir a, partir hian a parma ni thei lova, a parthuah mawi tak chu a te'chhe vek thin. Chuvangin a bulbaw kha a kung ro rap hnuaah cho chhuah tur a ni a, a bulbaw leh a kung hi, a chhungril a thawp avargun lui a pawm duh em em a, chuvangin a bulbaw chawh hlim chu, lelam hawi zawngin nuaah ni li ninga lai pho tur a ni a, a bulbaw chu thosihlo phulin dahthat mai tur a ni.

Tin, a bulbaw nlo, a kunga tan chum pawh-in a tihpun theih a, a bulbaw kha feet chanve vela thukin leiah phum nise li, tui hnawng tawh-in tih kuh reng tur a ni. February velah a bulbaw phun chu March thla tir velah a lo chaw chhuak anga, inches li vela sang a lo nihina hnah hnua ber hnuaiah chehchum a, a hnah hnuaiber chu paihin inches khat leh a chanve vel a thukin nihlima phun tur a ni a, a zangkath that chhang hi chawhkar thum vel a duh a, hemi chhung nuan nisaa dah tur a ni lova, a kung thchet loh tur a ni baw k,

A par hun chhung hi June thla atanga September thla thleng a ni. Par rawng chi hrang hrang mawi tak tak e ni. Dahha tel lo chuan huan a mawi tak tak thei lo an ti thin.

10. CENDYMION (Bluebell) : October thla a phun May thla velah a par vul thin a, pangpar mawi tak mai, a ruala tam tak phun chi a ni a, pot-ah chuan a mawi thei vak lo a ni.

11. GRANTHIS : Par eng, thlasik pangpar an tih baw k thin. Inches li atanga inches nga a sang a ni a. February thlaah a par thin.

12. CRYTHRONIUM : Lunghuan (Rock garden) ah an phun deuh ber thin a, May thlaah a vul tan a, July thla thlengin a par vul thin a. Rawng chi hrang mawi tak tak a awm a, inches ruk vela sang a ni thin. A phun hun chu June leh July a ni.

13. **FRITILLARIA** : April thla velah a par vul thin, rawng chi hrang tam tak a awm a. A par pot (hlumbel) a khawiin a mawi duh em em a. A phun hun chu October thla vel a ni. A par var, eng, serthlum rawng, a sen te an ni.

14. **GALANTHUS** (Snowdrop) : Thinghnuaia phun chi, huan ti mawi leh ti vul tu, September thlaa phunin January thla velah a par thin. Inches ruk atanga inches riata sang a ni thin, a var leh a hringin a par ber thin.

15. **GALTONIA** : Pangpar enkaw! nuam leh par duh em em, a bula leitha dah maiin kum tam tak khawi sawn lohin a tha rei thei a ni. July thla atanga August thla thlengin a par thin a. A san lam chu feet thum leh a chanve lai a ni thei. Rawng chi hrang hrang phun pawlhin a mawi duh bik a ni.

16. **GLADIOLUS** : Di pangpar zinga lar ber a ni a, a kung san lam chu inches sawnpariat atanga feet li lai a ni thei a. He di pangpar hi chi hrang a tam em em a, a par lian deuh te leh a te deuh te, rawng chitin tak meuh a awm a. March thla a phunin June thla atanga October thla thleng a par thin a. Tin, October thlaa phunin January thla atangin a par leh thin a. Tin, a rintang chi Gevilli an tih chi pawh a awm bawh a. Tin, mithiam ten, a rawng chi hrang leh a par lian leh zual tur a chi siam thar an hmuchhuak thar reng bawh.

17. **HYACINTHUS** (Hyacinth) : He pangpar hi, inchhung hlumbelah pawh a thain a nung duh em em a, a san lam chu inches kua vel a ni a. April thla velah a par thin a. Christmas thla lai vela par tur pawhin a chin theih a. A phun hun dik tak chu August leh September thla vel a ni a. Hetiang pangpar hi a rintang em em a, a var, a pawl, a eng, serthlum rawng tein a par thin.

18. IRISES : Iris pangpar chi hrang hrang tam tak hian, pangpar ngaina tu te khawvel a ti nuam in enkawl a nuam a. A bulbawk emaw a zungpuak emawa a chi hi phia a ni thin a. A zungpuak erawh hi chu, inchhunga khawiah a tha lova, a bulbawk atanga chawr ngei a ni tur a ni. Amarawhchu pawn nisaa phun darh atan chuan a zungpuak hi a tha em em tho a ni.

Iris chhungkuaah hian chi thum a awm a :

(a) Reticulatas : Hetiang chi hi a te chi (Dwarf Variety) an ti a, a kung san lam chu inches li atanga inches riat vel a ni a, December thla atanga March thla thlengin a par thin.

(b) Xiphiums : June leh July thlain a par thin a Hetiang chi pawh hi chithumah an then hrang leh a, English, Spanish, Duch tiin. Mahse heng chi thum te hi an par hun leh phun hun te chu thumun vek a ni a, feet khat leh a chanve atanga feet hniha sang a ni a, par mawi tak vek an ni.

(c) Junos : April tula atanga May thla thlengin a par thin a, mahse a hmasa pahnih te angin a lar ve lem lo. A san lam chu feet khat atanga feet hnih a ni.

A bula kan sawi tak ang khan, Irises chi hi a bulbawk atang leh a zungpuak atanga a chi lak a ni ber a, a zungpuak tam tura kan duh chuan, kan phun sawna tur kha hetiang hian buatsaih tur a ni.

A tlangpuiin June leh July chawlhkar hnihna thleng hi a phun hun a ni a, November-ah leh December-ah pawh phun theih tho a ni a, a phunna lai tur kha, inches li a thuk, inches riata zau laihkhuarin a zungpuak emaw a bulbawk emaw kha phun tur a ni. Tin, a zung kna thlep hauh lovin lei laihkhuarah chuan inphah tha thlapa phun tur a ni a. Tichuan a zungpuak tam tak a rawn chawr chhuak mai ang.

19. IXIA : Di pangpar zinga mawi ber te zing a mi, mahse enkawl a ngaih nasat bik avangin mi ngainat a hlawh thei thin lova, to pawh a to em em a ni. A kung san leuh chh a khat i-h a chanve vel a ni a, November thla a phunun May thla velah a par thin. Thlasik a huat avangin, thlaciik vanglai chuan puanin an khuh lum thin.

20. LEUCOJUM (Snowflake) : He pangpar hi hmunkhatah a huhova chin vaka mawi chi a ni a, April leh May thlaah a par thin a. A kuang-san lam chu feet hnih atanga feet li lai a tling thei.

21. LILY : Hei hi bulbawk neia par a ni ve tho na a, Lily hian chhungkaw hran a neih ve thliah a vangin leh a enkawl dan hi tlema a dan deuh avangin a hranin sawifiah a ngai a ni.

Lily hi chi hrang hrang a tam em em a, a then feet khat lek lek a sang a nih laiin, a then to erawh chu feet sawm laia sang te a awm bawk a. Chutiang zelin a thente chu, nsat vanglai tak hi an parmawi lai nimahse a thente erawh chu, nihlimah lo chuan a par thei thung lo bawk a ni.

Lily hi khawvela pangpar upa ber an ti hial a, ram hrang hrangah hian Lily awm lohna leh par theih lohna ram a awm loh avangin khawvel ti mawitu tiin an ko hial bawk thin, Hetiang Lily pangpar an hmuhchhuahna hmasa ber chu Aigupta ramah a ni a. Thawnthu dang lehah chuan, Mari (Isua Nu) kha, hmangaih Johana khan a enkawla, a lo thi a, tichuan phum lovin, kuangah an dah a, Johana zin hawna Phumah an ti a, mahse kan Lalnu Mari chu vanah a lawn tak avangin Johana zin hawnah chuan a kuang chu an va en a, a lo awm tawh hauh lo mai a, a kuangah chuan Lily (Gaster Lily) an tih ang chu a lo par vul chuk mai a. Chuta tang chuan Lily par chi hrang hrang hi khawvelah an la darh ta a nian ti a. A engapawh chu nise, khulai Middle East vel atanga chhuak chu a ni phawt mai a.

A chi hrang tam tak a awm nain a par dan  
chi tih a awm deuh bik a.

(a) **CHRISTAWRAT** anga, a tiang lam arh chhuak,  
rawng, sehler, sendok, a eng, a var te an ni a,  
Trumpet Shape an ti a, hetiang ang par hi chu  
kar somah pawh hian tam tak a awm.

(b) **LAKHUM** anga kum deuh, a par ding van  
lam lawk, Turk man's Cap an ti a, hetiang pawh  
hi rawng chi hrang a tam em em a, mawi tak a ni.

(c) **A** par thuah (petals) pahni nei, a thuah  
pawh zawk chu a arh a, a chhung zawk erawh  
chu lei lam hawiin a kum a, vantirhkoh (Angel's  
Tears) te mitui an ti a, rawng chi hrang hrang  
a awm.

Lily pangpar te hi kan sawi tawh angin,  
Middle East thlaler atanga lakchhuah a nih  
avangin tui an mamawh tlem hie a. Balu leh lei-  
tha chawh pawhin a tha dth em em a, a par  
pawh lei pangngaia phun ai chuan a mawi duh  
em em a ni. Tichuan hmun hnawng leh huh rene  
a ngathoi love, hmun thengihaw leh ro takah  
phun a, ni khat danah tui pek tur a ni. Tui a huh  
lutuk chuan a tawih duh hie. Tin, a bul nghahna  
lai tur lehkhuarah khan Balu hiang dan phawt  
the, a chhung langah leitha leh Balu chawhpawh  
khar tur tur a ni.

22. **MUSCARI** (Grape Hyacinth) : May thlaa par  
thin a ni a, lungkar (Rock garden) ah a mawi duh  
em em a ni.

23. **NARCISSUS** : A bulbawk lian tak mai, phun-  
nun awlam leh mawi chhungchuang di pangpar  
zawng sawnga mawi ber, huengh te, humbelah  
te, rock garden-ah emaw a par mawi duh em  
em a ni. March thla atanga June thla thileng a  
par thin a. A kung san lam chu feet khat atanga  
faat thum lai a ting thei. A par eng leitha var a ni.

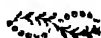
24. **ORNITHOGALUM** (Star of Bethlehem) :  
Hetiang pangpar hi tihnun a harsat avangin a to

bik a, a par mawi bawk a. Bethlehem Arsi tiin an lam bawk thin. A kung san lam chu inches nga leh ruk vel a ni a, October thla vela phunin May leh June thla velah a par thin.

25. SCILLA : February atanga April thla thleng par thin a ni a, a kung san lam chu inches nga leh ruk vel a ni a, September-a phun tur a ni a, a nung duhin enkawl a ngai em em a ni.

26. STERNKORGIA : August thlaa phun, September-a par thin, par eng buk laih, mawi tak a ni a. Ni sa a mamawhin dipdaltu a ngai thei lova, a bul hnaia pangpar dang emaw, hui emaw a awm chuan a par tha thei thin lo. Chuvangin englai pawha thlawh fai reng tur a ni.

27. TULIPA (Tulips) : Tulips hi chi hrang hrang a tam em em a, a par thua chi te, a mal par te, Vaiva hmui anga kawm (parrot tulips) te, Lily anga parte an ni. November leh December hi a phun hun a ni a, March atanga May thlengin a par vul thin. A par rawng hi chi hrang a tam a, a kung san lam chu feet hnh atanga feet li laia sang a ni. A rawng hrang hrang phun pawlin huan a timawi duh em em thin.



## BUNG - 12

### BIENNIALS (KUMHNIH PANGPAR)

A hmasain kumhni pangpar chu sawi fiah ila, kumhni chhung-a pangpar phun atanga par leh chi chhuah thei chi a ni a, a putling<sup>1</sup> thei bawk a ni. Kumhni hnuah chuan a thi a, a thar phun a ngai leh thin a ni.

Pangpar huan kan siamin, kumchanve par (Half Hardy) kumkhata par (Annual Hardy) kumhniha par (Biennial Hardy) leh kumthuana nung reng thei (Perinial) ho te hi thliar thiam a tui a, lei buatsaih dan erawh chu a in ang vek a ni.

Hetiang kumhnh par chi chu, ~~May~~ atanga June thla chhung kuitiah tur a ni a. Phun sawn chi vek a nih loh avangin phunna tura kuitah nghal mai tur a ni a. Phun sawn pawh a theih tho a October thla chhunga phun sawn ngat ni sela.

Kumhnh Par Chi Hrang Hrang Hmingte :

1. ALTHEA (Hollyhock) : Hetiang pangpar hi a hmingthang hle a, Mizoramah pawh rawng chi hrang hrang a tam hle a, feet 7 vel a sang a ni a. Leitha a mamawh tam a, nisa a mamawh tam lo thung, rawng chi hrang hrang a awm.

2. DIANTHUS (Pink) : (1) Dwarf : Hetiang te chi (dwarf) hi, inches ruk vela sang a ni a, Lungkarah pawh (rock garden) phun a mawi duh em em a ni. Rawng chi hrang mawi tak tak a awm.

(2) Dianthus allwoodii alpinus : Hetiang hi chu a kung a sang deuh va, feet khat leh a chanvea sang a ni thin. Hetiang chi hi chi hnih-ah an then leh a, Loveliner leh Sweet warelsfield an ti a, a par hun chu June atanga July ah a par thin.

3. DIANTHUS BARBATUS (Sweet William) : Hetiang chi hi June thla atanga July thla thlenga par ve tho a nia. A rimtui a vangin mi tam takin an duh phah a, a san lam chu feet khat leh a chanve atanga feet hnih inkar vel a ni. A rawng chi hrang tam tak a awm a, a par a vul rei em em a, khawi atan an hmang nasa em em a ni.

4. CHERRANRHUS (Wallflower) : Tukverh hnuaiah phun ila, a rimtui tak chu inchhungah a lut thin, chuvangin tukverh bulah kher an dah thin. a. June thla atanga July thla velah phunin a kum leh March thla atanga May thla thleng a par thin a, a kung san lam chu feet khat leh a chanve vel a ni a. He pangpar hi chi hrang tam tak a awm a. A kung te chi Dwarf Variety a awm



baw'k a, Tombthumb tiin an lam baw'k thia.  
Hetiang chi hi chu inches 9 vela sang a ni. Rawng  
chi hrang hrangin a par thei a, mawi tag a ni.

5. **DICTAMNUS** (Burning Bush) : Feet thum vela  
sang a ni a. Rose par anga in thua, a par  
mawi em em a ni, June thla atanga August thla  
thlengin a par thin.

6. **DIGITALIS** (Foglove) Foglove par hi May  
thla atanga June thla thlenga par thin a ni a,  
rawng chi hrang hrang a awm a. Feet thum  
atanga feet nga thlenga sang a ni thin.

7. **DORONICUM** (Leopard's Bane) : Hetiang  
pangpar hian khawvawt a ngeih a, ramlumah  
chuan a par thei meuh lo. Feet khat leh a chanve  
atanga feet hnih vela sang a ni thin a, September  
thla atanga October thla thleng a par thin.

8. **Lunaria** (Honesty) : Pangpar mawi em em  
mai, pangpar khawi mitena an duh em em, feet  
hnih vela sang a ni a. June thla atanga July thla  
thleng a par thin, a pawlduk (purple) a par  
thin a ni.

9. **MATHRIOLA** (Stocks) March thla atanga May  
thla thleng par thin, he pangpar tel lo hi chuan  
huan pawh huan a tling love an lo tih hial thin  
a ni a. Favang lain a par thin a, rawng chi  
hrang hrang chin pawlhin a mawi a. A sanlam  
chu feet khat leh a chanve a ni thin.

10. **MYOSOTIS** (Forget-me-not) : pangpar, mawi  
leh tihpun awlsam enkawl nuam, March thla  
atanga July thla thleng par thin a ni. Lei a zam  
chi, a par pawl lian tak Blue Baquet an tih chuan  
huan a ti mawi chungchuang a, rawng chi hrang  
hrang chin pawlhin a mawi em em thin.

11. **PENSTEMON** : May thla atanga July thla  
thleng par thin a ni a, inches kua vela sang  
rawng chi hrang hranga par thin a ni.

12. **VIOLA (Pansy)** : Violas leh Pansy hi pangpar chikhat nipui laia phun chi ve ve a ni a. July, atanga August thla thleng a par thin a. Thuk taka phun tur a ni a, July leh August thla velah kuitiah tur a ni a, September thlaah phun sawn nisela, nisa a duh tlem em em a, phun hlim phei chuan nihlmah deh rgei rgei tur chi a ni. February thla atangin a lo par anga, March thla thiengin. Rawng chi hrang tam tak a awm a, par mawi tak a ni.

## BUNG - 13

### PANGPAR KUM CHANVE PARCHI

(Half Hardy Annuals)

Pangpar kumchanvea par chi (Half Hardy Annuals) ho te hi, Nipui lai leh, favang a par chi te an ni hlawm a. Mahse kan ram (Mizoram) angah te hi chuan ruahtui kan neih that bakah thlasik a na ve lo va, thlasik lai pawhin heng kan han sawi tur hote hi chu a par thei vek a. Kumknatah vawihnih Mizoramah hi chuan a par thei a ni. Kum chanve par chi ho hi chu enkawl a nuamin kumkhatah vawikhat (Hardy Annuals) ho ai hian enkawl a awlsamin, leitha an mamawh pawh a tlem bik a ni. A tlangpuiin March-April vela par tura kan duh chuan November thla vela kuitiah ni se la, December, January, February thla ah chuan nisaah dah nise la, tlailam nilim hunah tui leih ila, tichuan May thla velah kuitiakin phun leh ila, October thlaah a lo par leh ang,

**A CHI KUTTIAH DAN** : Pangpar chi lak reng rengin, a par tha bik kha zuahin, a kungah ngei ro se la, tichuan a par hnun atangin thleng emaw lehkha chlah fai takah nuai thlain ro taka pho ni se la. Tichuan lei dip tha tak lungtein a pawlh

miah loh bawngkek emaw vawkek emaw nen hneh takin tih pawlh la, a hnawng tawkin tui theh huh a, pangpar chi kan theh hma nisawm atanga ni sawm pangpa tal buatsaih lawk tur a ni. Tlai tun tui huh tawka theh huh ziah ni se la, ruah a sur chuan tui leih kher a ngai lova. Tin, pangpar kuitiahna tur chu a theih hram chuan hmun zawlah ni sela, hmun zawl kan neih ngang loh pawhin terrace ang deuha laih zawl ni mai sela, tin, hlum bel emaw plastic bag (sarang) emaw-ah pawlh a chung a kan sawi ang buatsaih sa kha thun ni se la, a mawng ti pawpin a sarang chawpin phun-sawn mai tur a ni. Hlum bel a mi kha chu phun sawn lova dah nghal duh chuan a tha duh em em tho a ni. Tin, a kuitiahna a mi phun sawn dawnin a zung chawpin (a-zung tibuai lo thei ang berin) phun sawn ni se la, a hnah pui pali tal a chhuah hunah phun sawn tur a ni. Tichuan phun sawn atanga chawlhkar hnuhna velah pangpar bul chu a kung leh a zung ti chhe lo thei ang bera chawh-phut tur a ni. Chumi hnu chuan thlakhatav vawkhath chawhphut leh tur a ni. A kuhmum tantirh veleh a hnah kaurau paih vek ni sela, leitha pek hawk tur a ni. Tichuan pangpar chu a par dan dik takin a vul mawi em em mai ang.

Tin, bazara pangpar tiak zawrh tam tak te hi a tiak hlim, hnah pui pahnih chauh chhuangte an ni hlawm a, pangpar tiak hlim la te lutuk kha wih sawn hian a silawng hlen duh a, a parmawi tur angin a parmawi theih thin loh avangun a hnah-pui pali tal chhuang tawh lei hram tum tur a ni.

Kum chanve par chi, Mizorama par tha chi te :

1. AGERATUM : He pangpar hi chu hnih a awm a, "Blue Chip Hybrid" leh "Blue Mink" a awm. Blue Chip Hybrid chi hi a pawldang a par inches 8 atanga inches 10 a sang, a pawl dang par mawi tak a ni Tin, Blue Mink chi

hi chu a par te deuh leh a var leh vandumpawl rawng a par inches 6 vela sang a ni thin.

2. **ANTIRRHINUM** : Hetiang par hi phengphehlep ang deuh rawng chi hrang hrang, senlar, sendanglar, a eng, serthlum rawng te an awm a, a parmawi em em a, "Madame Butterfly" tiin an lam bawk thin. Tin, a kung lian chi a par thuah (double Hybrid Type) leh Dwarf Variety (a te chi) a awm bawk a. Double Hybrid Type ang chi hi chu feet hnih a sang a ni thin a, Dwarf hi chu inches 8 vela sang a ni thin.

Tin, a chung a mi bakah chi dang a la awm leh a, hmbel (pot) a khawi chi Tomb Thumb Variety leh, Dwarf Bedding an ti a, a par vul lain inchhunga dahah a mawi thei hle a, a vul rei hle bawk a ni.

3. **ASTER** : Aster hi Mizoramah pawh kan ching uar hle a, parmawi tak tam taka inthuah chi a ni. Aster hi chi thum a awm a, chung chu : -
- (a) Dwarf Bedding Aster : Kung tawite, inches 6 leka sang, kung khatah sawmthum lai par thei a ni.
  - (b) Ostrich Plume Type : A kung a sang deuh a, feet khat leh a chanvea sang a ni thei a, a par thuah (petals) a kir a, a zik zawng zawngah a par a, a hnah lang lovin a par khat lat thin. Rawng chi hrang hrang tam tak mawi tak leh par tha duh deuh mai a nih avangin "Super Princess" an ti bawk thin.
  - (c) Victoria Mink : A par a lian bika, a kung pawh a sang a, a hma a kan sawi tawh chi hnih te ei khian a par hma bik avangin "Earliest of All" tiin an lam bawk thin. A kung khatah par sawmpanga te a par a, rawng mawi tak a ni. A par hmasa a chuai velel tan chhum ila, a lo chawmo leh-in par a chhuah leh thin.
4. **BEGONIA** : Mizovin sekhpupthur par kan tih ang hi a ni a, chi hnihah then a ni.
- (a) Hybrid Tall : A kung sang tak tak, feet thuma

- sang an ni a, sendanglar leh a eng an ni.
- (b) Dwarf : A te chi, rawng chi hrang hrang rose anga parmawitak a ni.
5. BRACHICOME : Daisy anga par a kung chu inches 9 asang, a pawldang mawitak a ni.
6. CARNATION : Dianthus chhungkaw zinga mi par awlsam tak mai a ni. A sen dukin a par a, a kung chu leia zam darh chi a ni
7. CALCOLARIA : Parmawitak, nisa a duh tam a, inches 8 atanga inches 10 vela sang a ni thin.
8. COSMOS : Feet thum vela sang, a var, a sendanglar a var uk deuha par thin a ni. A kung te chi (Dwarf) pawh a awm a, arsi ang a par a ni.
9. DAHLIA : A bulbawk atanga tihtiah a ni deuh ber a, a chi atang pawhin a kuitiah theih tho bawk. Kan ramah hian a tha duh em em a, feet thum feet li lai a sang a ni thei a, rawng chi hrang tam tak a awm a, enkawl a nuamin leitha a mamawh tam lova, nisa erawh chu a mamawh em em a ni.
10. DELPHINUM : A kung te tak inches 9 vel a sang, par erawh lian tak tak a pawlduka par, enkawl nuam tak a ni,
11. DIANTHUS : Chi hnih a awm a, a lian chi leh a te chi a ni.
- (a) The Magic Charm Hybird : Hei hi a lian chi a ni a, inches 6 atanga inches 8 a sang a ni a, a sendanglar, senlar leh a var te an ni.
- (b) Persian Carpet Dwarf : A ruala tam tak chin chi, parmawitak rock garden (lunghuan) a chin chi bawk a ni.
12. GAILARDIA : Pangpar hlum an tih mai (Flower lud) a chin chi rawng mawitak senlar hlar mai, a chinna hmun atanga rawng sen dan danglam thei a ni. Nikanga chin chuan a senlar a, damah erawh chuan a senduk zawk thin. A sanlam chu inches 15 atanga inches 18 a ni thin.
13. GAZAMIA : He pangpar hi a par rei em

em a, a eng, serthlum rawng, engsen leh a sen  
lar rawng te a awm a, a par a len theih em  
avangia a kungin a zo thin lova, a kung pui tu  
hmawih khauh tak vihphuna phuarbeh tur a ni.  
A kung san lam chu inches 12 leh 15 vel a ni.

14. HELIOTROPE : Pangpar tihnun awlsam,  
rintui tak, a pawl leh nawinawk rawng a par a ni.

15. HELICHRYSUM : Pangpar nung duh leh  
mawi, leitha mamawh tam vak lo, parthi siam  
nan leh khawiin a mawi rei a, a varuk eng leh  
var a awm. A san lam chu feet khat leh a chanve  
vel a ni.

16. IMPATIENTS ; Hlumbelah emaw huan pang-  
ngaiah emaw a tha duh em em a, rose par ang  
a inthuah mawi tak a awm, inthuah ve lo arsi  
anga par a awm bawk. Rawng chi hrang hrang  
mawi takin a par thin a, nisa lutuka dah chuan  
a par tha thei thin lova, dam deuh leh nihlinah  
dah thin tur a ni.

17. IPOMOLA (Morning Glory) : A zam chi  
nisa mamawh tak, tawtawrawt ang a par, van-  
dumpawl rawng mawi tak a ni.

18. ROVELLA : Pangpar lar tak, rawng chi  
huang hranga par chi, parte deuh mawi taka par  
chi a ni a, a san lam chu feet chanve vel a ni.  
Tin, a par thuah chi pawh a awm a, a huhova,  
tam deuh tak phunin a mawi duh em em a ni.

19. MATHIOLA : Pangpar mawi leh rintui,  
rawng chi hrang hrang tam tak a par chi, a  
par rei hle a, phun atanga chawlhkar sawm velah  
a par thin. A san zawng chu feet khat leh a  
chanve vel a ni.

20. MESEMBRYANTHEMUM : (Living stone daisy)  
Hmun ro leh ni sa a mamawh a, daisy anga par  
mawi tak, mahse nisaah chauh a par parh thin a,  
rawng chi hrang hrang a awm a, inches thum  
vela sang a ni.

21. **MIMULUS** (Monday Flower) : Daihlim hnuaia kuitiah a, hmun hnawng leh nisa lutuk lova phun sawn tur a ni. Par mawi leh lian taka par inthuah, rawng chi hrang tam tak a awm a, feet khat vela sang a ni.

22. **NEMESIA** : Pangpar nung duh em em mai, par awlsam tak, parlian si, mawisi, rawng chi hrang hrang tam tak a awm. A san lam chu feet khat vel a ni. Fur leh thal leh thlasikah pawh par reng thei a ni. Pangpar enkawl nuam tak a ni.

23. **NICOTINA** : Vaihlo pangpar an ti bawk a, vaihlo par ang takin a par hnun lamah dawt a nei a, kung khatah rawng chi hrang hrang a par thei a, a rimtui em em bawk a ni.

24. **ORNAMENTAL CORN** : Pangpar kung lian tak feet li atarga feet 5 a sang thei, a par rawng chi hrang hrang, a sen, a eng leh a pawl a awm, Hmun ro leh thengthaw a mamawh a, pangpar mawi tak a ni.

25. **PENSTEMON** : Nikang et awtah kuitiah tur a ni a, par lian pui pui mai, thlasik lai leh nipui lai pawha par tuan chhuak zak thei a ni.

26. **PETUNIA** : Tukverh bula pot a khawiin a mawi duh hle a, hetiang pangpar hi chi hnih a kung te leh a lian chi a awm a, Mizoramah pawh hian kan ching uar hle a. A lian cli chu feet khat leh a chanve vela sang a ni, a te chh erawh chu inches 5 vela sang a ni. Enkaw! ngun a ngai hle a, nisa a mamawh a, tui a mamawh tam bawk. Nisaa daha tih hnawn reng a tha a ni. Rawng chi hrang hrangin a par thei a ni.

27. **PHLOX** : Kungte tak te mahse par duhawm tak, mawi tak mai, inches 6 vela sang, rawng chi hrang hrang mawi taka par thin a ni.

28. **PORTULACA** : Phun nun awlsam tak leh hmun ro tak a duh a, lung hmuna pawh a to

tha duh tho va, a par chi hrang hrang phun pawlhin a mawi duh hle a, inches 6 vel a sang a ni.

29. RUDHECKIA : Rawng mawi ~~chuh~~ chuang, thal tawp lama par vul chi a ni. A kung chu feet hnih leh feet thum inkar a sang, a eng leh a sen chi a awm a, inchhunga khawiin a vul rei em em a, chuang chuan Choice baises tiin an lam bawk thin. Phun nun awlsam leh enkawl nuam tak a ni.

30. SALPICLOSIS : Par mawi em em mai, chi brang hrang tam tak a awm a, a par mawina hian mit a la a. Enkawl ngun angai hle a, nikang leh tui a mamawh em em a ni.

31. SALVIA : Pangpar tihnun awl leh par hma tak vul rei si a ni a, rawng senlar hlar a ni a, feet khat a sang a ni.

32. SCABIOUS (Pincushion Flower) : Nilum mamawh tak, favang laia par vul thin, feet khat leh a chanve vela sang, par mawi em em a ni.

33. STATICE : A vul rei avanga pangpar hming-thang a kung chu feet khat leh a chanve vel, a par vul lai taka tanchhumin hmun vawt reih rawihah dahro ila, a ro hma ang chiahin a awm reng thin, chuang chuan a to vin, hralh a tla em em thin.

34. TEGETES : Derhken kan tih ang kungte chi a ni a. Chihnih a awm a, chungte chu : —

(a) Dwarf French Merigolds : Hetiang kung te chi hi a par thuah a tamin kungkhatah par tam tak a chhuah thin a. Chuang chuan French ho chuan Dainty Marritta tiin an ko thin a. A san lam inches 8 lekah buk takin a tawi leih thin a, English ho chuan "Golden Boy" tiin an ko bawk thin a, a eng senlar takin a par thin a, a senduk pawh a awm a, mahse a par a te deuh bik.



35. AFRICAN MERIGOLD : July leh August  
thla vela par thin a ni a. A par len lam chu  
hawltiangin inches hnih leh a chanve lai a tling  
thin a, a kung san lam. a to (Dwarf) 1  
feet khat atanga feet khat leh a chanve a ni  
deuh ber a, a lian chu Hybrid erawh chu feet  
hnih leh a chanve a ni deuh ber thin a. A par  
rawng chu, serthlum rawng leh rangkachak  
rawng te an ni.

36. URSINIA : Hetiang par hian nisa a mamawh  
em em a, chuang chuan (Sunshine Blend) tun  
an lam bawk thin a, African daisy nen a chin  
pawlin a mawi duh hle a, a rawng chu a eng  
leh rangkachak rawng a ni.

37. VENIDIUM : Nisa dawng tam tur a phun  
ni sela, tin, a bul'velah tui a tling tur a ni lo  
bawk. Serthlum rawngin a par a, a sendukin  
a do zeuh zeuh a, a chhungmu chu a dum a,  
a mawi em em a, a hnah chu sahmul angin a  
nelthap a ni. A kung san zawng chu feet hnih  
emaw feet thum pawh a ni thei.

38. VERKENNA : Hlumbel (pot) ah emaw lei a  
chinin emaw a tha duh ve ve a, ruahsur tam tak-  
in nan mahse a haw chuang lova, mawi takin a  
val rei em em thin. Feet khat vel a sang a ni a,  
rawng chi hrang hrang a awm a, pangpar enkawl  
nuam tak leh par hma tak, mawi em em a ni.

39. ZINNIA : He pangpar hi phun sawn a theih  
loh avangin, pangpar dahna tur hmunah khan  
kuitiah nghal mai tur a ni. A chi kuitiah dawn in  
a hma lam a lei buatsaih dan tur ang khan siam  
thlap ni sela, tichuan a chi theh hunah nithum  
chhung puanhuhin khuh tur a ni, tichuan tha tak-  
in a lo to dawn a ni. A par a mawin a lian em  
em a, inches 6 lai a tling thei, rawng chi hrang  
hrang mawi tak tak a ni thin. A kung san lam  
chu feet khat leh a chanve atanga feet hnih a  
a ni deuh ber.

## BUNG - 14

### PANGPAR DANG TE :-

1. **HARDY ANNUALS** : (Kumkhata vawikhat par chi, nipui lain) Kan in leh lo mawi taka pangpara kan cheia, rawng chi hrang hrang mawi taka par fir tur chuan, thiamna hranpa na in a ngai hauh lova, taimak chauh a ngai a ni, Mahse pangpar tha tak par mawi tir tur chuan, a enkawl dan leh leitha mamawh dan kan hriat a tul em em a ni.

Pangpar chi hrang tam tak khawvelah hian a awm a, tuna kan han sawi tur kumkhata vawikhat par chi (Hardy Annuals) ah pawh hian, leitha pek dan leh lei buatsaih dan hian kawngro a su nasa thei em em a ni.

Hardy Annuals hi chi hnih a awm a, March thla leh June thla thlenga phun chi leh thlasika par thei tho chi August leh September-a phun chi an ni ber a.

**LEI BUATSANH DAN** : Pangpar chinna hmun chu ni kang et awt nisela, mahse nisa lutuk leh thli na lutukin a chhem theihna hmun a ni tur a ni lo. Kan pangpar chinte chuan ni a hmuh that loh chuan a rawng a mawi theih loh bakah a par a te em em thin.

Tichuan pangpar phunna tur chu, i phun hma thla hnihah i lai phut ang a, bawnggek emaw vawkek emaw, tin, hnah tawih duh chi leitha a chang thei, Japan zawngtah, tlangsam, Japan hlote hi an tha em em a, leiah chuan hneh takin chawhpawh ila, tichuan kan phun dawnah lei chu dip takin kan chek dur anga, tichuan pangpar chu a par dan dik takin a lo thang chho mai ang. Tin, pangpar phunna lei chu englai pawhin a hnawng reng tur a ni a, mahse tui a tling tur a ni lo. Leitha bawnggek emaw vawkek emaw hmanin a dur tha rei a, a ngeih bawh a ni.

Tin, pangpar phunna tur chu a theih hram chuan lei khwar hmasak a, ni 10 atanga 14 tal lei-tha dah hmasak tur a ni. Bawnggek emaw vawkek emaw, a pmasa kan sawi leitha thing hnah hman tur kan nei loh chuan lei chi (fertilizer) Urea emaw NPK emaw hman tur a ni. Tin, pangpar chinna tura lei kan buatsaih kha a dip dap tura ni a, lungin a pawlh tur a ni lo. Tin, lei ro laia buatsaih tur a ni bawk.

**PANGPAR PHUN DAN :** A hmasa berin pangpar rawng chi hrang hrang phun dan leh kuitiah dan kha fel taka ruahman diam ni sela, entir nan :- pangpar phunna tura lei kan buatsaih sa kha, feet 4 a zau feet 8 a sei lo ni ta sela, pangpar tuna kan sawi nipui lai phun chi (par chi) (hardy annuals) ho hi chu kung lian lo tak feet hnih vela sangte an ni hlawn a. Tichuan feet khat danah zel phunin, a sirah a var phunin a laiah a senlar, tin, a sir lehlamah chuan a var bawk emaw a eng emaw phun ni sela, a lo thang lian anga inchawih mawi takin a lo vul chuk mai ang Tin, huan nei lo ten pot-ah emaw tinah emaw khawi pawhin kan sawi ang khian a tih theih tho va, hmbel hun dan kha awmze nei takin ruahman ni se la. Tin, pangpar chin reng rengin, chitin leh rawng tin pawng chawhpawlh mai mai hian a mawi tur angin a mawitir thei thin lo a ni. Chi tin fam tawkin, inpawlh vul chuk se la, a lang mawi hmam pangpar awmze dik tak a lang chhuak thin a ni. Tin, a phun dan hlat zawng kha feet khat kar danah kan ti tak naa, pangpar san zawng hmun thuma thena hmunkhat ang chen vela hlaah phun ni se la, entir nan :- pangpar kan chin kha feet thuma sang ni se la, feet khat kar danah phun ni se la, tin, feet hniha sang anih chuan inches 8 (khap khat leh a chanve) inkar danah phun tur a ni a, tichuan a lo thang lian ang a, a insi phui tawk vel ang.

Tin, pangpar phun sawn reng rengin, a bul leh a zung leng tawh kha teh a, a lei kha chawh khuar hmasak thlap ni se la, a zung thlep hauh lo vin phun tur a ni. A zung a thlep palh blauh a nih chuan a par tha thei thin lova, a par buk tha thei ngai lo a ni.

#### **PANGPAR VUL THA TURA ENKAWL DAN :**

Pangpar kuhmun tantir i hmuh veleh, leitha a kung atanga khap khat velah Urea emaw NPK emaw dut no khat tuiah thirfiante hnih vel pawlha leih kual den den tur a ni. Tin, pangpar kungah a hnah kaurau emaw, a tang thi tawh emaw chu sahthlak vat tur a ni. Tin, leitha hi kartin vawikhat chawlhkar thum pek tur a ni. Tichuan pangpar chu a par chhung a lo rei anga, a vul mawibawh ang. Tin, pangpar kung sang chi a nih chuan, a kung tanpui turin hmawlh khauh tak vih phun la, phuar beh tur a ni. Tichuan a par lo parh hunah thle kawin lovin ngil takin a vul nalh duh bik a, a vul rei duh bawh a ni.

#### **PANGPAR MAWI ZUAL BIKTE (Nipui laia par chi) :-**

1. **ALYSSUM** : He pangpar hi kung te reuh te te, huan pal sira rual taka chin chi a ni a, tin, tukverh bula pot-a khawiah pawh mawi tak, a rawng var a ni.

2. **AMARANTHUS** : Hei pawh hi a huho va chin chi, a sendanglara par, mawi tak a ni. Pot-ah pawh khawiah theih tho a ni.

3. **ANCHUSA** : A dumpawl (Blue Angel) an tih par mawi tak vul rei tak a ni.

4. **BARTOMIA** : A englara par, nipui chhung zawng par reng thei chi a ni.

5. **CALENDULA** : Mizovin derhken kan tih ang chia thuah mawi tak enkawl sam em em mai, par duh tak a ni. Rawng senduk leh a eng a ni deuh ber a ni.

6. CAMPANULA : He pangpar hi Varpah (venus) tiin an lam baw, a par chhunglam var, a sir lam nawinaw, rawng mawi tak a ni.
7. CENTAUREA : Hetiang pangpar hi chu riez taka chin chi lei chhe deuh pawh a ngam a, he pangpar hi chi hnih a awm a, a kung lian chi leh te (Dwarf) a awm a, a kung lian chi chu feet thum vela sang a ni a, a te chi erawh chu feet khat leh a chanvea sang a ni. Rawng chi hrang hrang; a pawl, senduk, sendanglar, a var te an awm a ni.
8. CHRYSANTHEMUM : Kumtina par chi a ni a, chi hrang tam tak a awm. A nung duh em em baw, a, a par lian deuh chi leh a te deuh chi a awm a, feet thuma sang a ni deuh ber. Ruah-tui tam a mamawh lova, nisa a mamawh em em a ni. A kung feet khat a sang a nihah sihhum tur a ni. Tichuan alo tawi ang a, vul takin a lo par ang. Leitha a mamawh tam lo hle. Rawng chi hrang hrang a awm.
9. CLARKIA : He pangpar hi derhken anga par inthuah mawi tak, daihlina dah chi, nisa lutuka dah chi a ni lo. Rawng pawl, senduk, sendanglar, senlar a awm a, a san zawng chu feet khat leh a chanve vel a ni.
10. CONVULVULUS : He pangpar hi par mawi tak, thangduang tak, par pawl, a chhung lamah a eng leh a varin a pawl a kung zam chi, feet khat vel lek anihin a par nghala. Nisa a mamawh a leitha vak loah pawh a puitling thei em em a ni. A puitlinin feet khat leh feet hnih inkar vel a ni.
11. COSMES : Arsi anga par rawng tam tak awm a ni a, feet hnih atanga feet thum vel a ni. Pal bula phun tlar chi mawi tak a ni.
12. DELPHINUM : He pangpar hi rawng chi hrang hrang mawi tak a ni a, Septemder thlaa

~~kuittah~~ March thla vela a par thin. Feet thum atanga feet 4 vela sang a ni a, a rawng senduk pawlduk, sendanglar, a var, chin pawlh ila a a mawi duh hle a ni.

13. **DIANTHUS BARBATUS** : Dianthus par hi chi hrang, hrang tam tak a awm a, favang laia par chi nisa a mamawh a, leitha mang lo ah pawh a puding thai a, enkawl nuam tak a ni.

14. **DIMORPHOTHECA** : Daisy ang deuha par a chi tih tiah atanga thla hnih leka par thei, serthlum rawng a laiduma par thin a ni.

15. **DRACUPHALUM** : A pawl dang, a par feet khat vela sang daisy ang deuh bawka par thin a ni.

16. **CHUM** : Feet khat vela sang, a dumpawl mawi taka par thin, nisa a mamawh em em a ni.

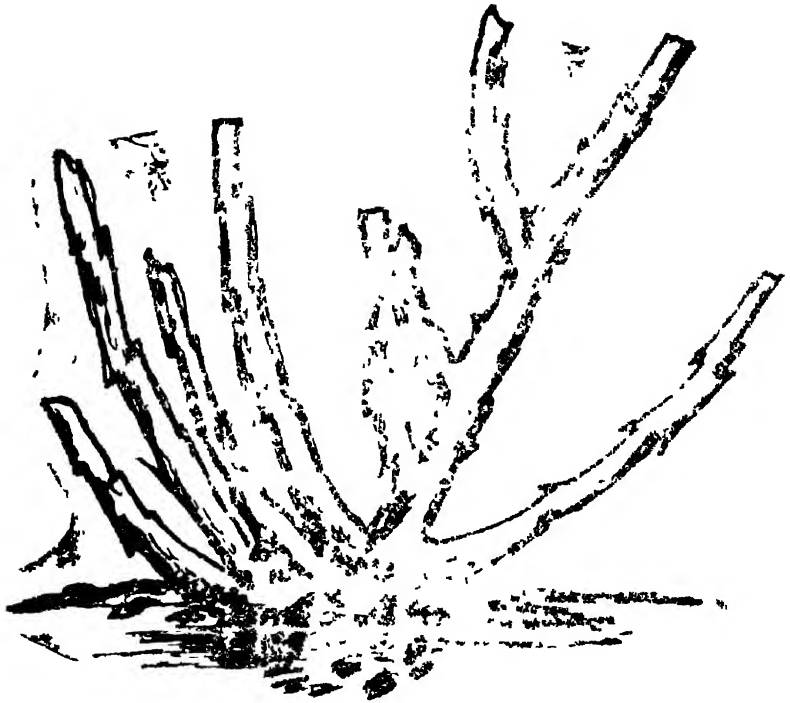
17. **GACHOLTZIA** : (California Poppy) Hetiang pangpar pawh hian nisa a mamawh a, leitha a mamawh vak lo bawka. Rose anga par thuah mawi tak rawng hrang hrang; senlar, sendanglar, serthlum rawng leh a engte a awm a, Prim rose te chi nen a mang hle a, lungkara phun chi a ni a, feet khat vela sang a ni.

18. **GUPHORKIA** : Pal sira phun chi mawi tak tiang pangah vul chuka phun chi, nisa mamawh tak a ni.

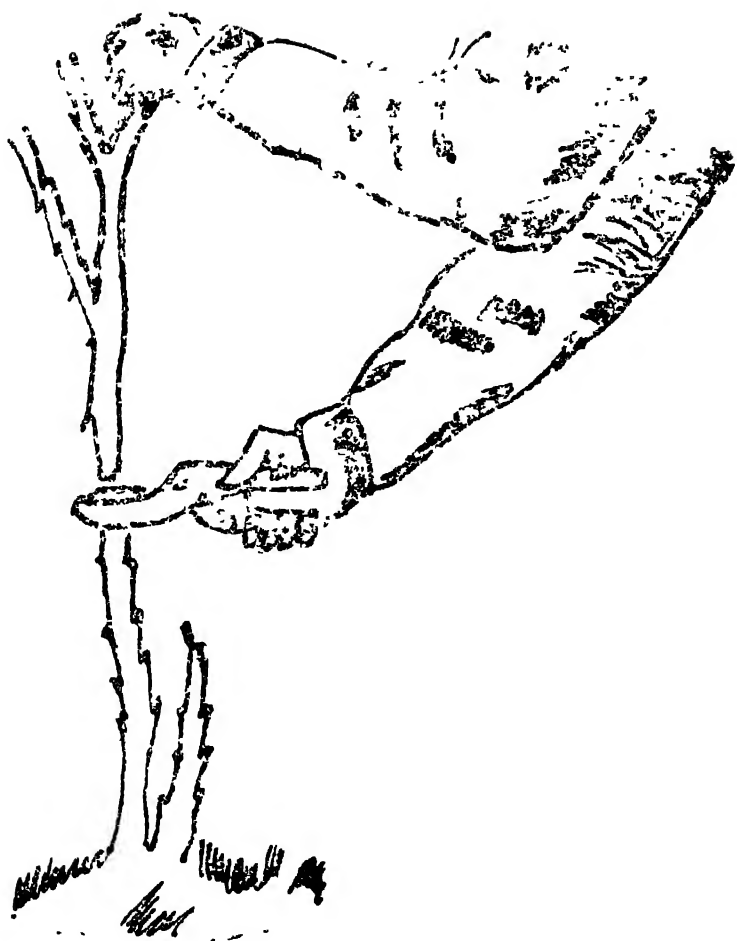
19. **GILIA** : Feet khat leh a chanve a sang, a pawldala par, nung sam tak par duh em em a ni.

20. **GODETIA** : Huan zim tana chin chi, nisa a duh tama, leitha a mamawh vak lo. Tihnun awl tak a ni. Rawng chi hrang hrang chinpawlhin a mawi duh em em a, a san zawng chu feet khat leh a chanve vel a ni.

21. **GYPROPHILA** : A par var mawi tak, pangpar bawra siam chawp (bouquet) atan a mawi duh em em a, tin, a sendanglar pawh a awm a, feet khat leh a chanve vel a ni thin.



Root Tamulian



Rose Kung Tanchhum dan





Zygocactus (Cholla Cactus)



ECHINOCACTUS

23. **HELIANTHUS ANNUM** (Sun Flower) : Mizovin nihawi par kan tih hi a ni a, feet riat lai a sang a ni. Nikangah a par mawi duh bik a, damah chuan a par te duh em em thin. Nihawi hian hriak tha chi a pai tam avangin khawvel tinah a par mawi vang chauh ni lovin, a hriak sawr atan an ching uar em em a ni. Leichhia a ngam em em a, putling awlsam tak a ni.
24. **IBERIS** : He pangpar hian leichhia a ngam a, a vara par rimtui tak feet khat vela sang, rose anga thuah a ni.
25. **LATHYRMS** (Sweet peas) : He pangpar hi hmuntinah a that duh avangin, a hmingthang em em a. Rawng chi hrang hrang a awm a, Leitha leh nisa amamawh em em a ni.
26. **LEPTOSIPHON** : Chhimbal rawng inpawh anga par chi, hi hrang hranga phun pawhun a mawi duh a, Arsi anga par mawi tak a ni.
27. **LUMINANTHUS** : Khuai par tin an sawi bawk thin. A par eng a pawn lam sen mawi tak a ni.
28. **LINARIA** : Phun nun awlsam tak pangpar bawr (bouquet) atan a mawi em em a ni.
29. **LINUM** : Ramlum leh vawt a ngeih ve ve a, a par var, a chhungril senlar vap ham mawi tak a ni.
30. **MALCOMIA** : Leichhe ngam tak inches 9 vela sang, rawng chi hrang mawi tak a par chi a ni.
31. **MATHIOLA** : Kum khatah vawihnih pawh a par thei a, (Holy hardy) an tih ang deuh a ni. A rimtui em em a, tukverh bula dahin in chhungah a rim a lut thei thin a, tlaiah a rim a chhuak thin, feet vela sang a ni.
32. **NEMOPHILA** : Vandumpawl rawng a ni a, damah leh hmun hnawnga phun chi mawi tak a ni.
33. **NIGELLA** : Vandumpawl duk, a tang phun nun theih mai, feet khat leh a chanve a sang, a sendanglar leh a var pawh a awm.

34. PAPAVER (Poppy) : Rawng chi hrang hranga par thin leh rawng mawi chung chuang tak a ni. Huan ti mawitu, carnation nen a chin pawlhin a mawi zual a, feet bawh leh a chanve vela sang a ni thin. Leitha leh nisa a mamawh hle bawh.

35. RESEDA : Feet khat vela sang, rimtui tak, rawng chi hrang hrang a awm a, arsi anga par mawi a ni.

36. SALVIA HORMINUM : A par chauh pawh ni lo a hnah pawh a mawi em em a, khawi atan a vul rei bawh a, pangpar dang nen a khawi pawlhin a mawi leh zual avangin Sweet William tiin an ko bawh thin. A rawng chu sendanglar, a pawl leh a var chi a awm.

37. SCHIZANTHUS : Phengphehlepar par tiin an ko bawh thin a. Parte tak te te, a sendanglar, nawinawh rawng leh a var a awm a. Nisa a chin chi a ni. Feet khat leh a chanve a sang a ni thin.

38. SILENE : Phun nun awl chi a ni a, rawng chi hrang hrang a awm a, sendanglar leh senlar leh a var te a awm a, feet khat vel a sang an ni. Lung huanah (Rock garden) lung bulau phun a mawiduh bik a ni.



## BUNG - 15

### ROSE CHIN DAN.

Rose chin hlawhtlinna thuruk chu, a lei buatsaih uluk hi a ni mai a, a theih hram chuan pangpar dang nen a phun pawl loh ni sela, Rose phunna tur hi lei chekhwar chawp a, pawng phun mai mai tur a ni lo va. A theih hram chuan inches 20 a thuk leh inches 20 a zauin a khur lai hmasa ila

tichuan a mawngdapah klan lung lian vak lo  
 artui tiat vel kan dahang a, chumi chungah chuan  
 leidip lung tel lovin, hnumnah leithaa chang chi  
 te, dangsam, Japan zawngtah, (Zung-ta, Japan)  
 nen kan dah pawh ang a, leitha dang dah chu  
 tun hunah hi chuan a la ngai ri lo. Tichuan Rose  
 kan phun. lama chawhlikar hnumnah a phunna tur  
 hi kan peihsa diam ang a. Pot-a khawi kan dah  
 chuan pot lian deuh a te. berah feet 1 a zau, feet  
 khata thuk a ni tur a ni a. Lei a phun tur kan  
 buatsaih ang khan kan ti ang a, mahse superphos  
 phate vei khat ni tawh lovin thirfian (tablespoon)  
 khat chauh chawhpawh a ngai a ni.

### A PHUN DAN

Rose phun tur phai ami chah kha daihlmah  
 phelh a, baltinah tui chhawp lawk a, phelh veleh  
 tuah chuan chiah zel a, a zung khan thli thaw  
 leh boruak a dawng tur a ni lo. Tin, phun tur  
 tuah chauh hmasak hi a hrisel a, a nung duh baw  
 a, darkar 4 tal chiah ni sela a tha a ni. Tin,  
 phunna tura buatsaih kha la peih hman loh phei  
 chuan nilenga chiah pawh a pawh hauh lo. Tin,  
 phai ami chah chhuah ni kher lo, i ta sa thpun  
 i duh a, a kung ami sahthlak i phun dawn chuan  
 tuah i chiah hmasa ngei ngei tur a ni.

Tichuan tui chiah sa chu i phun dawn ta a,  
 i lei buatsaih sa kha haikhuar la, tui huh takin  
 leih a feet chanve vel tal phun tum tur a ni.  
 Tin, rose hi phun hun a awm chuang lova, tui  
 a hmuh that a heta kan sawi ang thlapa phun  
 chuan englaipawhin a nung thei a ni. Tichuan  
 phunna lei chu muk takin nem rual a, a zung-  
 thlakna lai turah leh a bul vel reng rengah khan  
 thli a luh loh nan, lei chunglang kha hneli taka  
 tui leihin zut mam thlap tur a ni a, che hlek lo  
 turin nghet em emi n phun ang che. Tihchet pah  
 hlek chuan a zung thar lo chhuak tur kha a tawp  
 hlen daih thin. Tin, zing lama phun ai chuan,

chawhnu lam, tlai lamah a nung duh bik a. Tin, rose phunthar reng reng hi phun atanga, a tlem berah pawh chawhkar hnih tal nihlmah ni in a chhun theih hauh Johnnah dah hi se a tha.

Tichuan chawhkar 5 emaw chawhkar 6-naah emaw a lak thar a lo chawr fir fer hunah a phunna lei chunglang kha thli lut thei lo tura zatman kha a zungthar tichhe lo tur ang berin leh a kung ti che map lovin chawhphut tur a ni. Tichuan tlai lamah hlir tui pe ang che, A theih phei chuan ni tlak hnua chauh tui pek tur a ni. Tin, tui pek in a bul takah pek tur a ni lova, a bul atanga kut-zungchal chen vela hlaah tui leih tur a ni. A bul taka tui leih chuan a zung tan la thar tur kha a ti silawng a, a than theih loh bakah a lawng ang a, a thi leh mai ang. Mahse a chungka kan sawi ang thlapa leih chuan a zung tan la thar tur kha a tawh chauh vin a hnawng ang a, Rose kung chuan a ngeih em em ang. Tin, i phunna lai kha eng'ai pawhin a hnawng reng tur a ni, mahse tui tlin tir hauh tur a ni lo.

### LEITHA A CHAWM DAN

Phun atangachawhkar rukah a lei chunglang inches 2 vel kha lakchhuah a, bawnggek thi tawh leh Bone Mill emaw saruh thar lam chhutsawm leh 'oil cake chawhpawlh' la, a lei chunglang inches 2 lakchhuahnaah khan dah tur a ni. He-ttanga leittha chawhpawlh hi kumtin October thla tirah pek ziahin a ngeih em em a, rose kung khatah chuan par tam tak a rawn chhuah reng mai ang. Tin, rose kung chu par silova a kung ringawt a that hnua chuan hormone (a pa chi) a tlachham a ni duh a, heng damdawi hi pek tur a ni.

1. Indole Acetic Acid (IAA)
2. Gibberalin (Gibberalin Acid)
3. Cytokini.

Heng damdawi te hi Agriculture Office-ah a awm loh chuan, Culcutta ami emaw, Silchar, Assam Agro Industries-ah lei tur a awm ang. A hman dan chu a bur tuamnaah a awm ang a, a awm loh chuan hetiang hian hmang ang che.

Thirfian lian khat lekin tui pava 4 nen chawhpawilha leih kual den den tur a ni. A kung atanga kutzungchal chen vela hlaah bawk leih a, ni 10 danah vawithum leih tur a ni. Tichuan Rose chuan par tha tak tak a rawn chhuah ang a, a vul chuk mai ang.

Tin, hetiang a i enkawl a, a la par loh fo chuan Psychology (iilru lam) a enkawl ni sela. Tawngka in fak chungin i hau (zilhau) mawlh mawlh la, i parmaw i thlahlelin duat em em in ka enkawl che a, engatinge i par duh loh? tuna i par loh chuan ka ti hlum mai ang che. A kung lian deuh ber laiah khan inches 1 vel a seiin a pil kha chemhriam faitak in i vel kual ang a, sarangin i tuam leh ang a. Tichuan a lo chawr thar ho kha chuan a kuhmum a rawn keng tawh mai ang. Tichuan a lo par veleh lawmthu hrilh mawlh mawlh a, i va han mawi tak em!! i par mawi hian min ti hlim thin a ni, i ti i ti ang a. tichuan Rose chuan ka pi tihhlim hi a va lo nuam em a ti ang a, a par vul tawlh tawlh mai ang. Tin, thlai leh pangpar bul reng rengah dawt sawi tur a ni lova, dawt sawi chu a hua a, a par tha thei hauh lo a ni.

### TANCHHUM DAN (Pruning)

Rose tanchhum (Pruning or cutting) hi engvanga tul kher nge kan tih chuan, rose upa leh a kung tar chu an lo hrisel lova, par an chhuah that theih loh bakah natna hri an man awl em em a ni. Chubakah kan rose phun te kha a zar a tam lutuk a, chep taka a awm chuan a lo indip-ria a, leitha a heh em em a, a mawi thei thin lo a ni.

\* Tichuan thlasik dawn October thla chawin  
 lamah chemhriam takin a bul atanga feet khat  
 vela sahtlau zawngin tanchhum vek a, tanchhum-  
 naah khan ruahtui emaw rannung emaw a juh  
 theik loh nan sarang a tuam tlat tur a ni. Tin,  
 chinsi tah mai pawh hi a tha tho va, tin, rawng  
 banga kan, tinawih chi pawh tah maiin ruahni  
 emaw leh nafna hrik lut tur kha a veng thei tho  
 va, a tha em em a ni. Khawvawh lutukna ramish  
 chuan March thla tawp lamah an tanchhum thin a.  
 Mizoramah erawh hi chuan October thla tawp lam  
 a tanchhum hi a tha ber a ni. Tichuan peng thar  
 tha tak a lo chhuak ang a, rose chu a nula reng  
 mai ang. A par pawh a lo lian sawt mai ang. Tin,  
 rose phun kha tihpun duh chuan tanchhuma kha  
 paih mai lovin, a hmalama kan sawi tawh angin,  
 tinah tui chhawp lawk la, tanchhum veleh thlithaw  
 emaw boruak hip thei lo tur ang berin, tui tin  
 a i chhawp saah khan i chiah vat tur a ni. Dar-  
 kar 4 tal i chiah hnuah nghet takin phunna tura  
 ruahman saah khan feet chanve vel phun thum a,  
 ni chhuahna lam hawi zawnga awn deuh hlekin,  
 tichuan a zungah boruak lut hauh lo turin lei  
 chunglang kha diak takin chul mam thlap tur a  
 ni. Tin, hetiang rose phun tur chu a hnah zawng  
 zawng kha tihkawh vek tur a ni a, inches 14 vel  
 a sei a ni tur a ni. Tichuan a zung a kaih hma  
 hauh pawhin a hnah a lo chawr hluam hluam  
 ang a, mahse tihchet palh hlauh chuan emaw  
 boruak a luh chuan a zung kaih tur kha a tawp  
 hlauh ang a, a thi leh vek mai ang. Tichuan  
 khawih che hauh lovin a tem beaah chawihkar  
 6 dah tur a ni. Tin, phunna lai kha a hnawng  
 reng tur a ni.

Tin, rose kung reng reng hi feet 3 aia sang  
 a awmtir loh ni sela. Feet thum aia a san chuan  
 a hun leh hun lo sawi lovin tanchhum zel a tha.  
 Tin, rose kungah hian a tang ro a awm chuan  
 a rang thei ang bera tanchhum zel tur a ni.



A tangro zuah reng chuan nana duk a Ko di lutuka, tin, leitha a heh tho bokah a zung thlongina ti chhe thei thin a ni.

Rose tanchhumna aia a tang huan ch hriam em em tur a ni. Vawhata chhawkhatawk thei a ni tur a ni. Tin, chem hman-ku-fai tak a sil hmasak ni sela, chem bil tak leh bal tak hman chuan vawi tam tak sahnawn a ngai a, rose kha a chhe hlen thei a ni. Tin, Miniature Rose zam chite hi chu tanchhum an ngai ve lo va, a a tangro chauh tanchhum tur a ni.

Tin, Rose zam chi ni si lo a phun tirh atang a ria sang duh em em a nih chuan a rang lama tanchhum zung zung nise la, bul takah feet khat vela zuah ni sela, a kung chhe deuh te chu, chu aia sang, a taqna hnuaia a tang pahni emaw chawr thei turin tan tur a ni. Mi thenkhat ten kan ui lutuk thin avangin kan tan phal thin lova, kan pangparin a chhiat phah em em zawk thin a ni. A bik takin a par lian chi (Hybrid teas) an tih phei hi chu tanchhum loh chuan a par te tawlh tawlh a, a chhe zo vek thin a ni. Tichuan Rose reng reng a kuhmum (partur) si lo va lo chawr, hnah li hnah nga emaw chhuah a tawp leh mai a awm chuan a rangthei ang bera kawih-bal a, paih daih tur a ni. Tin, rose chu a par a tilh veleh a par hnun kha tanchhum vat tur a ni bawk. Tichuan a par hnun i cheh thlakna sirah khan emaw a hnuaia, a mitah khan a kuhmum a lo chhuak leh vat dawn nia.

Tin, October thla a, Rose phun thar ho kha chu March thla tawp lam emaw April thlatir lamah emaw sahtlak (tanchhum) tur a ni. Tichuan October thla tawp lamah tanchhum leh tho tur a ni.

#### ROSE TIHPUN DAN (Propagation Roses)

(a) TANCHHUM (Cutting) :- Rose tanchhum mai hi a awlsam dan leh Rose tihpun dan tha tak chu a ni a. A phun dan chu a hma a, Pruning Column

ah khan kan ziahtawh ang kha a ni mai a, October thla tir lamah emaw tih tur a ni. November thlatir lamah pawh a pawl lo.

(b) BUDDING :- Hetianga rose phun hi tunlai khawvela an chin lar ber leh hlawhtling ber a ni a. A bikin Hybrid Teas (a par lian uni) ah phei chuan, thil dang kan han sawite ai chuan a hlawh tlin avangin an uar em em a ni.

A hmasa in Wild-Rose an tih ang, par nei lova kung tha duh leh nung duh parmawil vak lo chi, ramhnuai mai mai ang pawha nung duh ang chi kha, May-ah emaw June-ah emaw phunnun hmasak a, tichuan a nun that em emah November thla tirah chuan budding hi tih tur a ni a. Chemte hriam em em hman tur kha Detol tuiah dal deuk vin pawl a, silfai hmasak var a, Wild-Rose a tang lo chawrna tur a mit lo lawr fir fer kha inches 1 a zau inches khat a sei in a rose kung tak zuk zai tel hauh lo vin a pil chauh kha zai thlak a, rose kung tha a mi rawn chawr tur mit kha fimkhur em em in Wild Rose kungah chuan rem em em in a rang thei ang berin bel thlawp a, la in emaw thing hnah hruin emaw nghet takin a lo chawr tur dal hauh lovin tawnbeh a, tichuan a lo chawr ang a, Wild rose nunna kha tawm in rose parmawil kha a lo thang lian mai ang.

Tin, budding tih lai hian ruah in a nan tur a ni lova, nisa lutuk pawh a ngam hek lo. Ni a sat viau chuan a theih ang ang a zar hlah ni sela. Chubakah Wild Rose atanga hnah lo chawr emaw apeng lo chhuak emaw a rang thei ang ber a sahthlak zung zung tur a ni. Hetiang a tih loh chuan rose tha chi, lo chawr tur kha a dip hlum hlauh mai ang.

Budding chi dang leh chu, rose par tha chi ve ve lo chawr tur a mit kha, a hma a kan sawi tawh angin inches khat bial vel in zaithlak ve ve a, a parsen kung ami kha a par eng kungah i va

tawnbat, ang a, a par eng kung ami kha a par sen kungah, tichuan rose kung khatah pawh chi hrang hrang a par tir theih a ni. Hetiang budding tih hian - ia chawr that hle hma chuan a kungah peng dang leh hnah chhuah tir phal reng reng tur a ni lo. An lo chawr chuan a rang thei ang ber a sahchhum vat tur a ni. Tin, kan sawi tak ang khan kan chemte hman leh kut te fai thei ang ber a detol tua sil hmasak vek tur a ni. Tin, kan tawnbehna tur hrui emaw pawh detol tua chiaah fai hmasak zet ni se a tha a, a balh hlek chuan a thi duh em em a ni.

(c) **A KUNG ZAWM** : Hei pawh hi a hlawhtlin duh ayangin India ramah leh khawvel hmun hrang hrangah a lar em em bawk a ni. Budding atan a kan sawi ang deuh khan May, June thla vel bawkah Wild Rose kha phun hmasa leh in, tichuan October thla tawp lam emaw November thla tih lamah emaw tih tan leh tur a ni.

Kufat tak leh chemte hriam takin Wild rose a bul atanga feet chanveah a sir tawn tawnah (a lai khwar) zum takin in tan ang a, tichuan chum rem thlap tur chuan rose tha chi kha i zum ang a, rem takin rose chhe chi sahkakah khan chuktuah a. Nghet tak in tichuan a lo nung mai ang. He tih lai hian tihchet reng reng tur a ni lo va, tawnbeh hnu a tih chet chuan a thi hlen daih thin. Tin, rose tha chi chuktuah kha feet khat emaw feet khat leh a chanve vel aia sang a ni tur a ni lo. Tichuan Wild rose atanga peng io chawr a lo awmin a rang thei ang ber a sahchhum zel tur a ni.

(d) **KAWLAWM** : Kawlawm hi a hlawhtling duh hle bawk a, a awlsam em em bawk a, mi tupawh ina tih hlawhtlin theih mai a ni bawk.

Rose kung a chang tawh ngei kha chemte hriam takin inches 2 vela sei in a kung bul atanga feet khat emaw feet khat leh a chanveah emaw

vel kual chhuah vek a, tichuan leitha inches chanve a chhahin belkual chhuah vek a, ni khat danah tuiin a huh tawh chauhin leih thin tur a ni a. Tichuan zung a lo kaih ang a, tanchhuma phun nghal vat tur a ni. Hetianga tih hi a nung tha duh em em a ni. A zung kaih leh kaih loh hriet nan kha i thil kawlawm kha phelh chhin kher a ngai lo va, kawlawm atanga kar hnihna emaw kar thumnaah emaw, kawlawmna chung lamah a peng thar tur a rawn chawr that viau chuan, kha kawlawm atana leitha i tawnbeh kha a ei ta a, a zung a kaih ta ani tihna a ni ang a, chehchhum hmawh a, lei buatsaih saah khan, kawlawmna atan i tawnbeh kha phelhin tuiah chiah zetin phun tur a ni. Tin, tui a chiah chuan, a tuamna kha phelh hmasa lovin i phun dawnah chauh phelh la, tichuan kan sawi tawh angin nghet takin phun tur a ni.

#### ROSE NATNA LAKA VEN DAN

Rose hi kan chin uar deuh leh a huhova han chin hian natna chi tam takin a tlakbuak thin a. A tawi zawngin sawi mai ila, heng a hnuaia natna kan han sawi, a damdawite hian tui chawhpawh a kah tur a ni a, a chawhpawh dan chu, heng damdawi bur tuamnaah hian a in ziaak a, in ziah loh chuan a tlangpuiin tui pava khatah thir-fian lian khat pawh ila a tawh duh khawp mai.

#### RANNUNG ATANGA ROSE NATNA

(1) Rannung te reuh te te a hring, a bawh a fu a, a zik ei bul thin tu. Metasystox or Metacid ni sawm danah zel kah tur. Vawi 4 emaw vawi 5 emaw a dam hma chuan kah zel tur.

(2) A hnah ei pawp hrep hrep thintu rannung eng emaw a uk emaw a nih chuan. Metacid leh Thosihlo, Nisawm danah zel kah tur. Vawi 4 emaw vawi 5 emaw a dam hma chuan kah zel tur.

(3) Rannung sen tereuh te te, a hnahno leh a kuhmum eitu, mita hmuh theih loh khawpa te, a zik leh a kuhmum ti eng sawp sawp a, ti tawih mai thin tu.

Metasystox emaw Carbryal. Ni sawm danah a dam hma chuan kah zel tur a ni.

(4) Rose kung leh a pil inkara lut rannung var uk lek lek, a kung atanga chhova a kuhmum ci chhetu.

He hrik kaina zar kha tanchhum a, ram Lla taka paih bo hmasak tur a ni a. Ni 5 danah Metasystox emaw Carbryal a kah tur.

(5) Rose kung lei seh chin hnuai lam a awm thin leh a zung ei thawrawng thintu. Tin, a zungah bawk tam tak sam thintu a ni.

Soil Aldrin E C leih vat tur a ni.

#### A NATNA CHI DANG TE :

(1) A hnah dum-thut thut pentui theh ang mai a dum thluah thluah thin a ni.

Damdawi : Dithane M-35 emaw Cuman L leh Bliton a kah tur a ni.

(2) Vutbuak ang taka a hnah a pawt thurin a hnah ti til ur ur theitu natna.

Damdawi : Sulphur emaw Dithane M-35 emaw Cuman L emaw Bliton a kah tur a ni.

(3) A enghring rin anga awm riak ruak leh a hnah hnuailam a ei chuan serthlum rawng ang deuhin a hnah rawng a lo danglamin.

Damdawi : Sulphur emaw Dithane M-35 emaw Cuman L emaw Bliton a kah tur a ni.

#### ROSE CHI HRANG HRANG TE

1. HYBRID TEA : Rose par rau rauah chuan a ang a mawi a awm thei tawh chuang lova, a hming lemah chuan khawvel mawitu (beauty of the world) an ti thlawt a ni. June thla atanga October thla inkarah a par vul thin a ni. A kung chu feet 2 atanga feet 3 a ni deuh ber thin.

2. **FLORIBUNDA** : Hetiang chi hi chu Hybrid Tea aia te deuh, a bawra pali panga lai par thei chi a ni a. Floribunda hi chi hnih a awm a, chi khat chu Hybrid tea anga, a mal chapha par chi, mahse a par chu Hybrid tea aia te deuh a ni a. Chikhat leh chu a kungte (Dwarf type) chi a ni leh a, a par hun chu October thla leh June thla tho a ni.

### 3. SHRUB ROSE

Hei hi Floribunda Rose nen a inang riau a, mahse a kung a lian bik em em a. June 'eh July thlaah a par ber thin. A rimtui bik em em a ni.

### 4. OLD FASHIONED ROSE

He Rose par hi a lian vak lo va, a par bawr kara, a khat lo awmun a ti mawi zual kai a, June leh July thla hi a vul zual lai a ni a. Mahse enkawl that chuan kumtluanin a par thei tho va. A kung erawn a te bik em em a. Par awmze noi tak leh rawng (engrawng pawh) lar takin a par chhuak a, Pitar leh Putar te lawm a hlawh bik em em a ni.

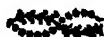
### 5. CLIMBERS, RAMBLERS

Rambling Rose tiin an lam deuh ber thin a, hetiang par dan hi chu Hybrid Tea ang deuh mahse a aia te si a ni a, June atanga October thla thleng a ni a, a par vul hi a chuai hma deuh bik a, Floribunda anga bawr tupa par chi bawk a ni.

### 6. MINIATURE ROSE

Hei hi chu Rose zawng zawng kan han sawi tak aia te ber e ni a. A kung hi feet khat aia sang lo, parte reuh te, par mawf tak rimtui em em a ni a. June thla atanga October thla thlengin a par thin.

Hetiang ang Rose chi hrang hrang kan han sawi tak te ho hi huanah a inpawh mawi tawka phun chuan a mawi duh zual a ni.







RAM LEH HNAM HMASAWNNA LEH ZAHAWMNA  
CHU EI LEH BARA INTODELH A NI

